inverted file functions as an index to the *master file* for faster access to any record.

In order to create a Winisis database with any chosen field, you need to define the following components.

- **Field Definition Table (FDT):** The FDT defines the fields such as Author, Title, Publisher etc. of the records in the database and their characteristics. FDT determines the nature of data entry worksheet.
- **Data Entry Worksheet(s):** The worksheet is the screen layout used to create and/or update the records of the database. Winisis provides a specially designed editor to create the worksheet.
- **Print Format (PFT):** The PFT is the format for display or printing of records.
- **Field Selection Table(s) (FST):** FST defines fields that can be searched in the database. Search is made possible by creating an inverted file of terms indexed from the fields chosen for search.

2. Mode of Installing WINISIS

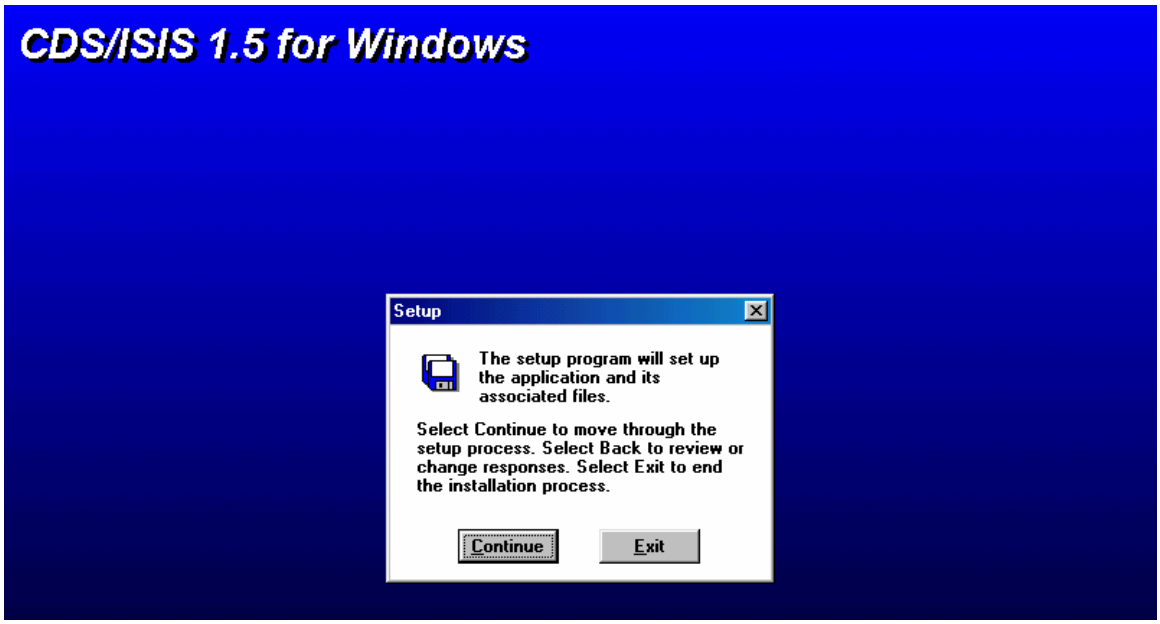
Double Click on the **Wisis1.5.exe**[1] to start its installation.

Figure 1

Then you will get the first screen in the installation process as follows: -

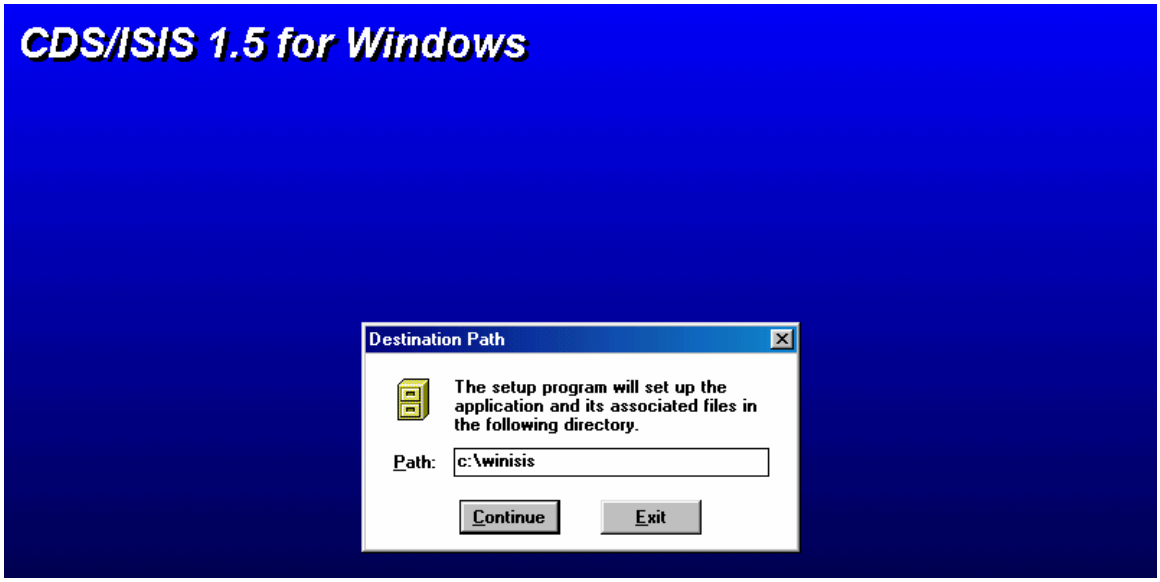
[1]Winisis and associated software are obtainable from Unesco website www.unesco.org/isis. You can download Winisis directly from www.unesco.org/isis/files/Winisis15_3.exe or www.unesco.org/isis/files/winisislicense .html

Figure 2



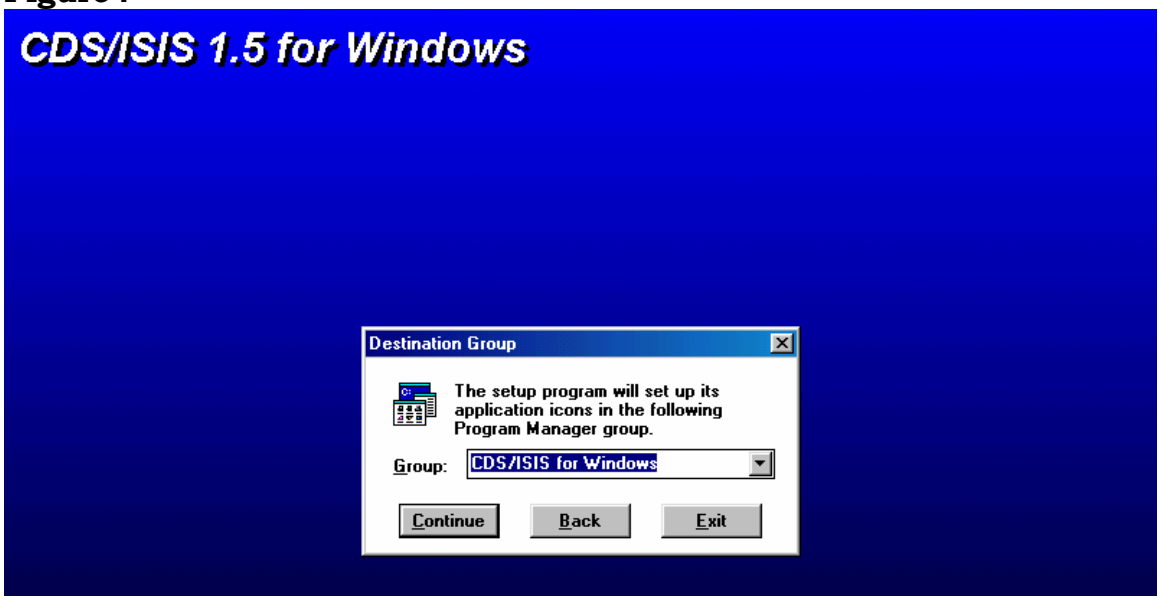
Click on the **Continue** button and you will get the following window

Figure 3



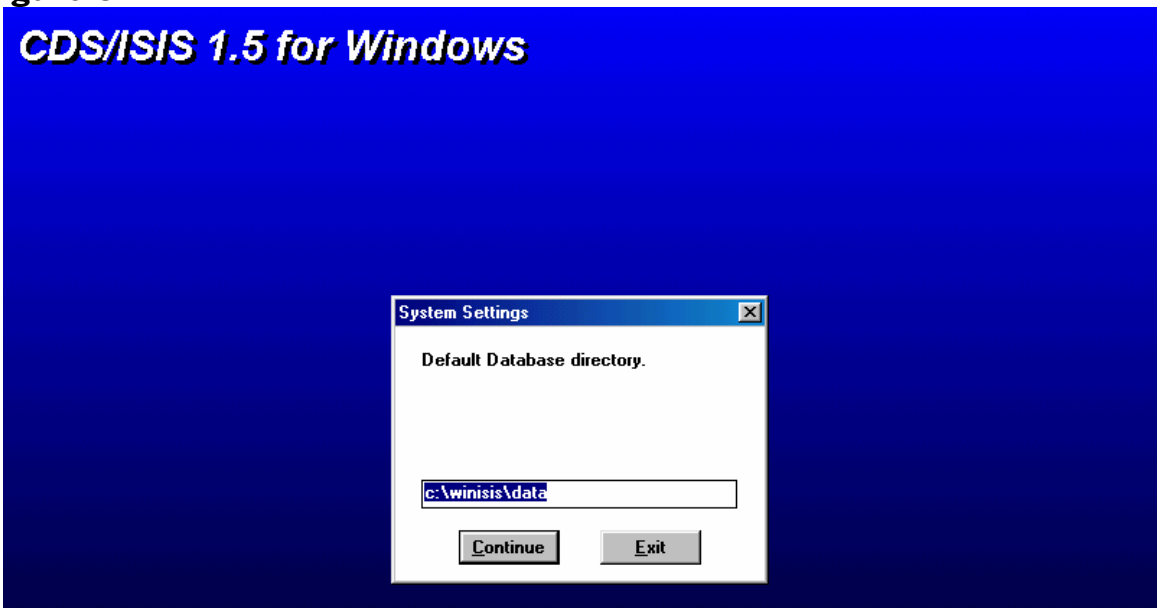
Click on the **Continue** button.

Figure4



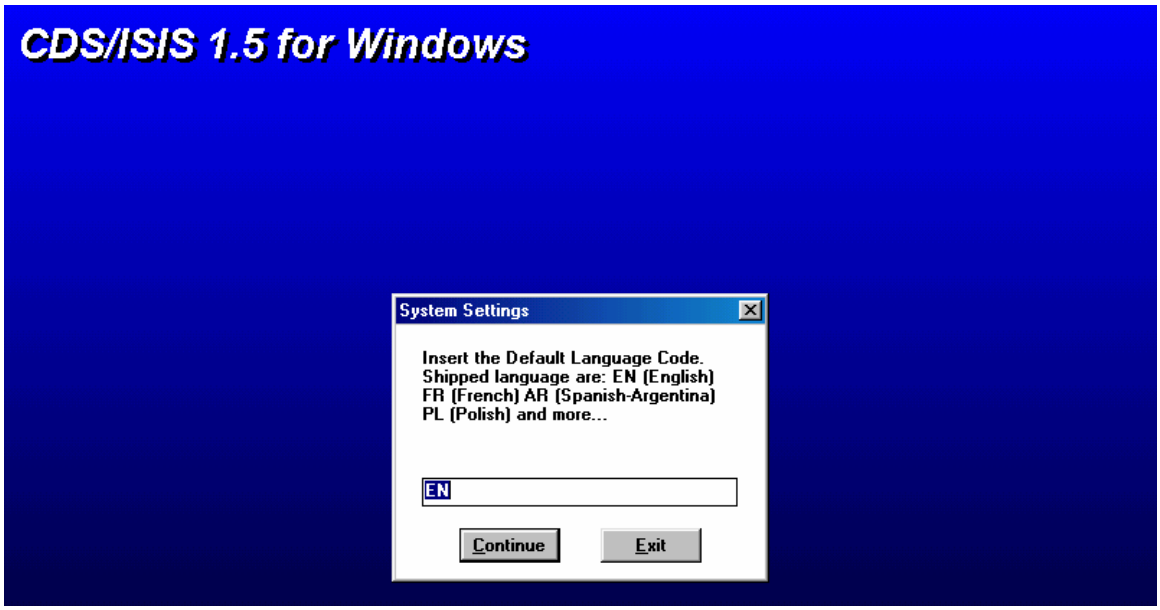
Click on the **Continue** button

Figure 5



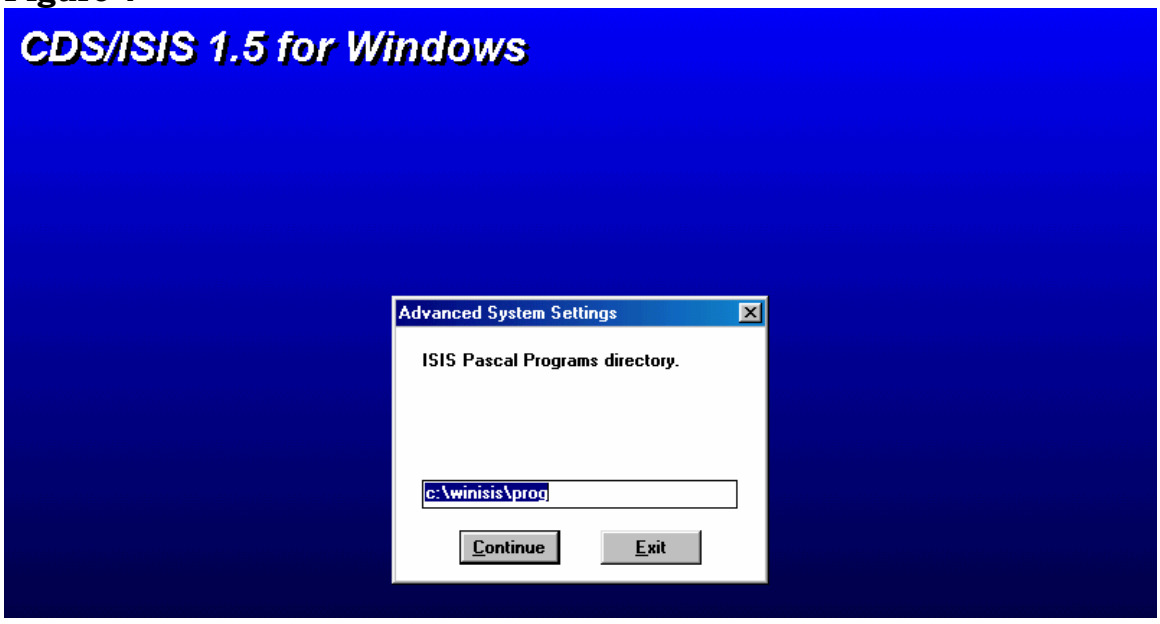
Click on the **Continue** button

Figure 6



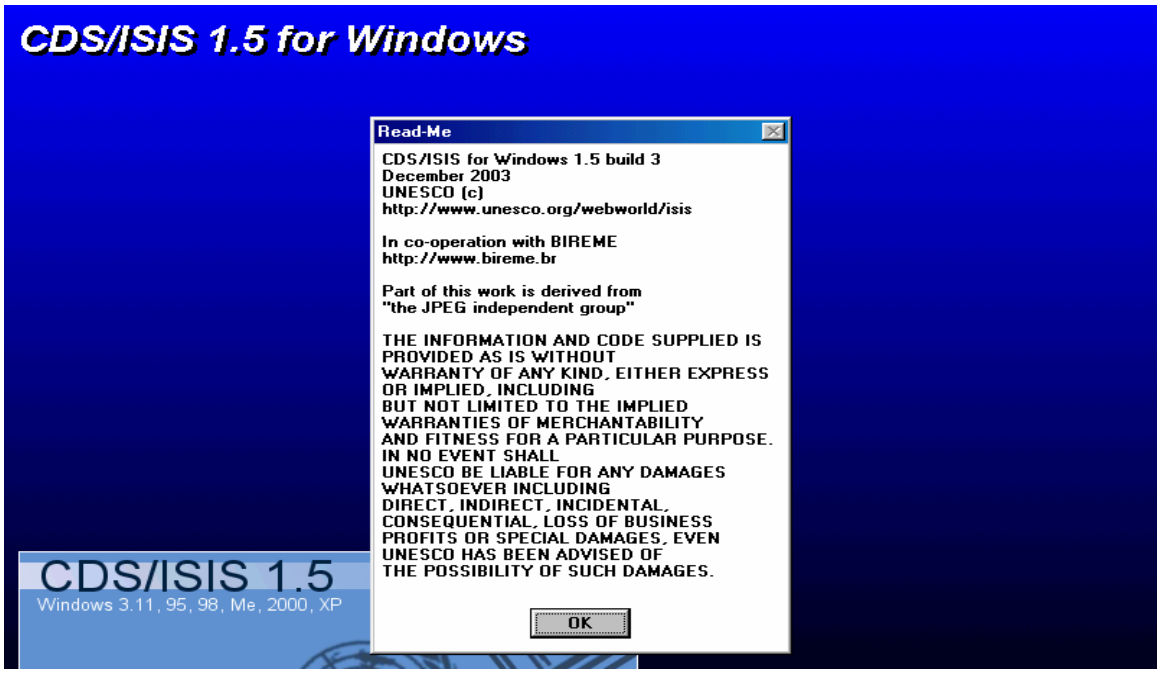
Click on the **Continue** button

Figure 7



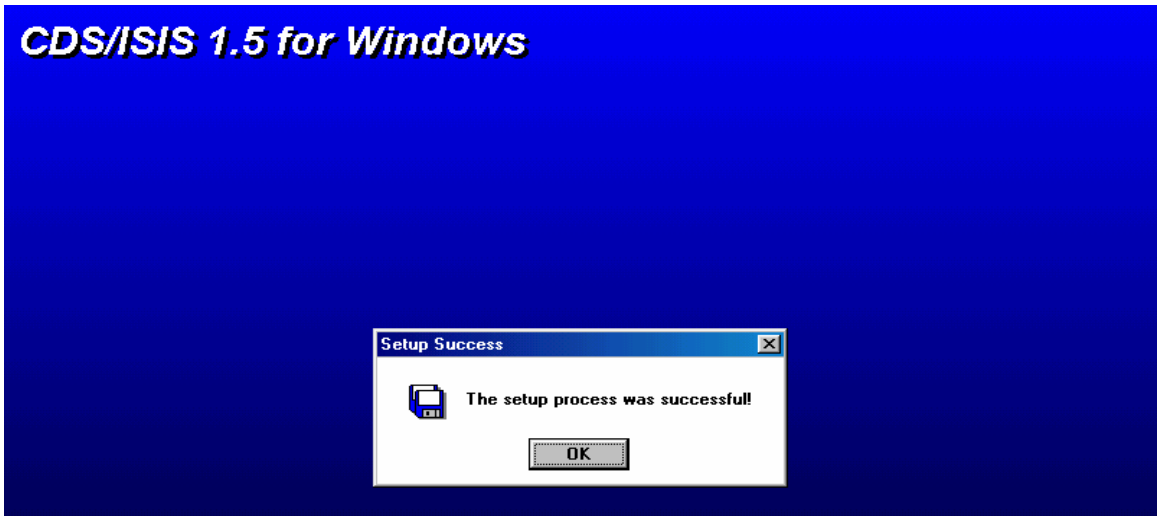
Click on the **Continue** button

Figure 8



Click the **OK** button and you will be notified the successful installation of the programme.

Figure 9



Click the **OK** button to finalise the installation.

The next step is the creation of database

Creating the Database

A **database** is a set of records or pieces of information about entities such as books, journals, articles or conference proceedings. A record is made up of a number of *fields*. Each field contains data about particular facts like author, title, keyword etc.

How to create the database of digital collection of documents, using Winisis?

In order to create an archive of digital documents, you need to collect a few full text documents and place them in a folder in your computer. Create a database of the above digital documents in Winisis[2]. The database can have any number of fields. But our sample database will have the following tags and fields for convenience.

10 Author
20 Title
30 Keywords
40 Fulltext

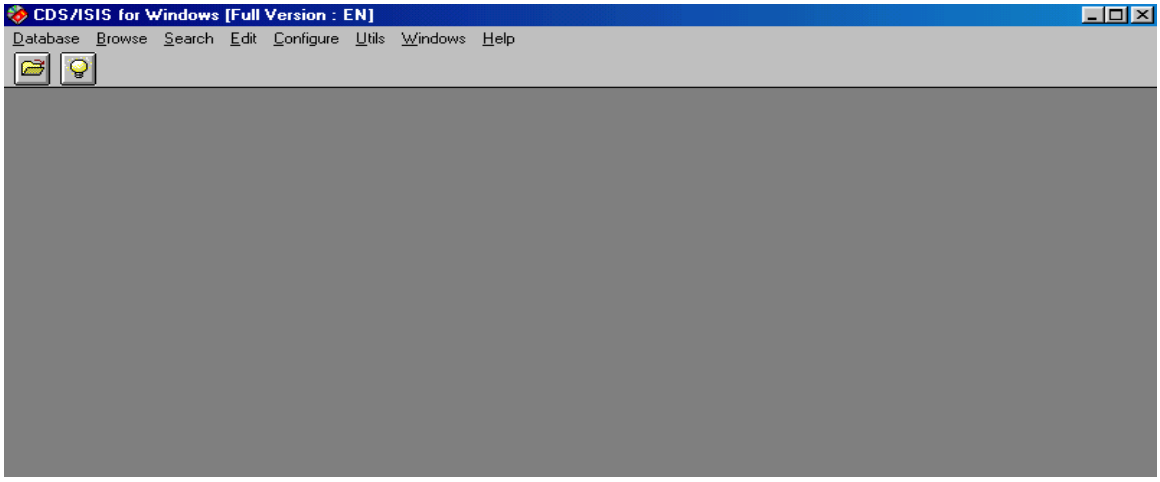
(*It is advisable to use an international standard, such as MARC21 or Common Communication Format for Bibliographical Description (CCF/B) for the purpose*)

Creation of database by using Winisis is very easy and automatic.

For creation of database, open the Winisis programme by clicking **CDS_for Windows** under **Start/Program.** Then you will get the following screen: -

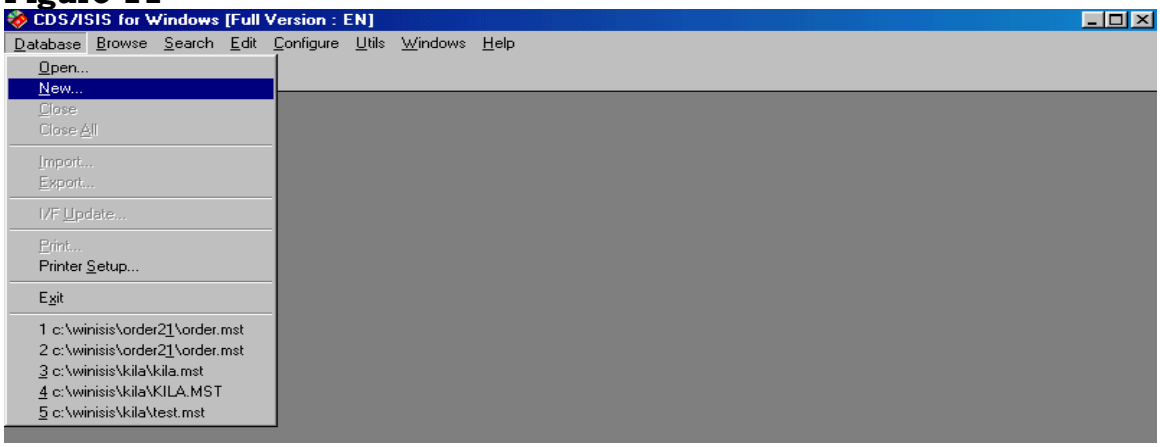
[2] Winisis is installed in C:\winisis folder. *Data* subfolder holds the Winisis data files. Each Winisis database consists of around 12 files. Files ending with *.mst, .fdt, .pft* and *.ifp* are important data files. *Syspar.par* is the parameter file that determines many things. Each file in the Winisis must have a *numeric tag* to identify it. You cannot change the tag number of a field name without resorting to import or export process.

Figure 10



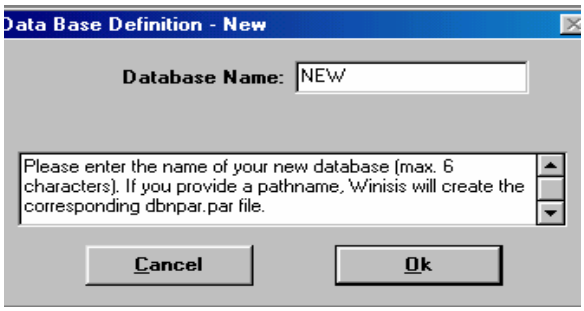
Click on the **Database** drop down menu and select **New** as follows: -

Figure 11



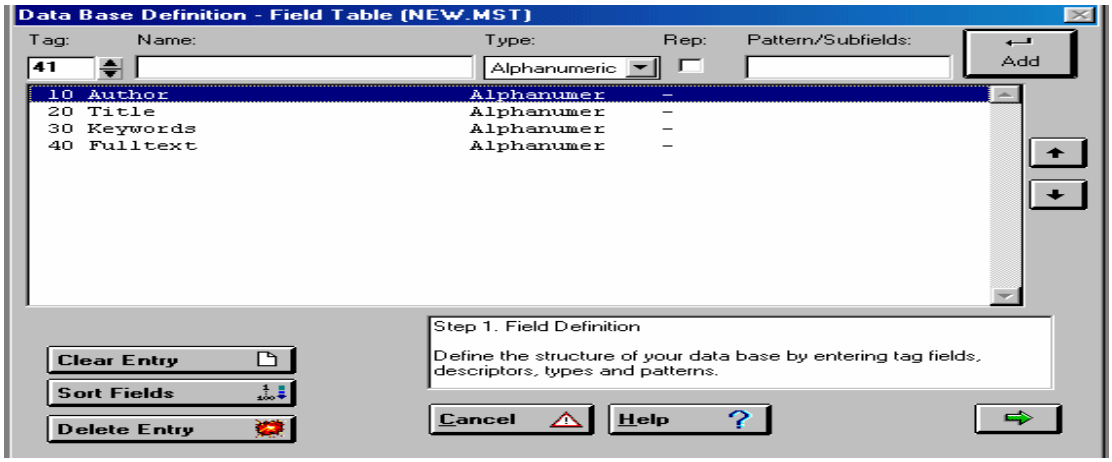
Now you will be lead to the following screen: -

Figure 12



Give a database name such as **NEW** and click on the **Ok** button. Then you will get the following screen: -

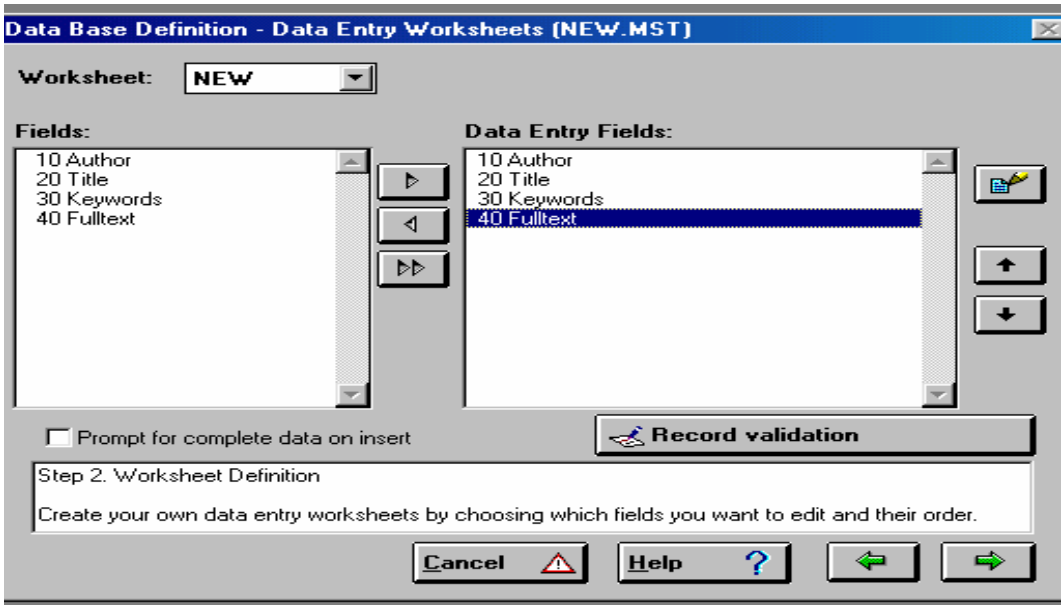
Figure 13 Field Definition Table



You need to provide the **Tag number** (10, 20, etc) and **Field name** (Author, Title etc) of your choice in the *Name box*. Beginners may choose Alphanumeric under *Type*. Click the check box under *Rep* for multiple occurrence of the field. *Pattern/Subfields* can be ignored, if you are not dividing the field into subfields. Click the **Add** button every time on completion of each entry.

On entering the tag numbers and the name of *fields*, click the **arrow button** at the right bottom corner to move on to the next screen.

Figure 14 Data Entry Worksheet



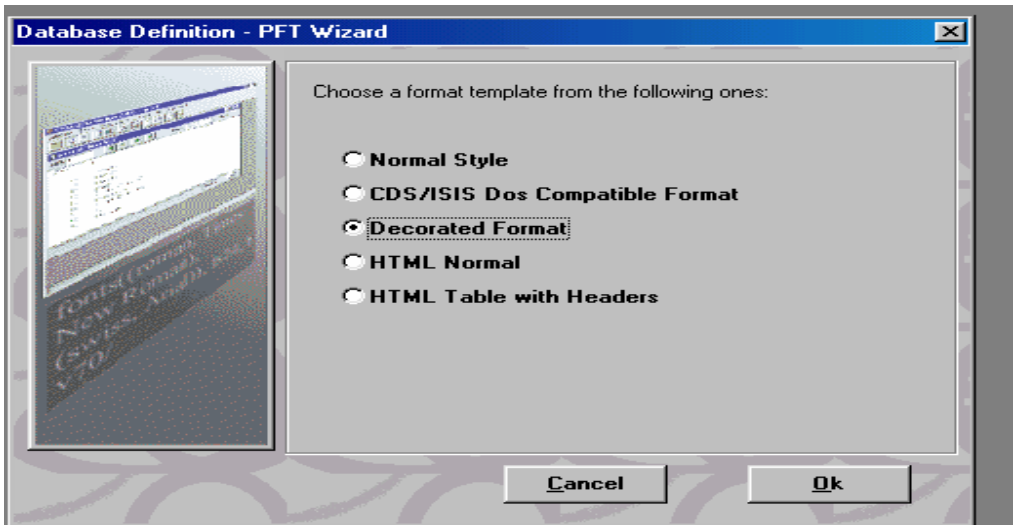
In the above screen, highlight the fields (in the left pane), which you want to include as the ***Data Entry Field*** and click on the **side arrow button** in the middle so as to get the field included as a ***Data Entry Field***.

If you click on the double arrow button above, all fields will be selected as Data Entry Fields and will appear in the right pane as above. Then click on the **green arrow** button to move on to the following screen.

Figure 15

Click **Yes** to launch the wizard Print Format Assistant

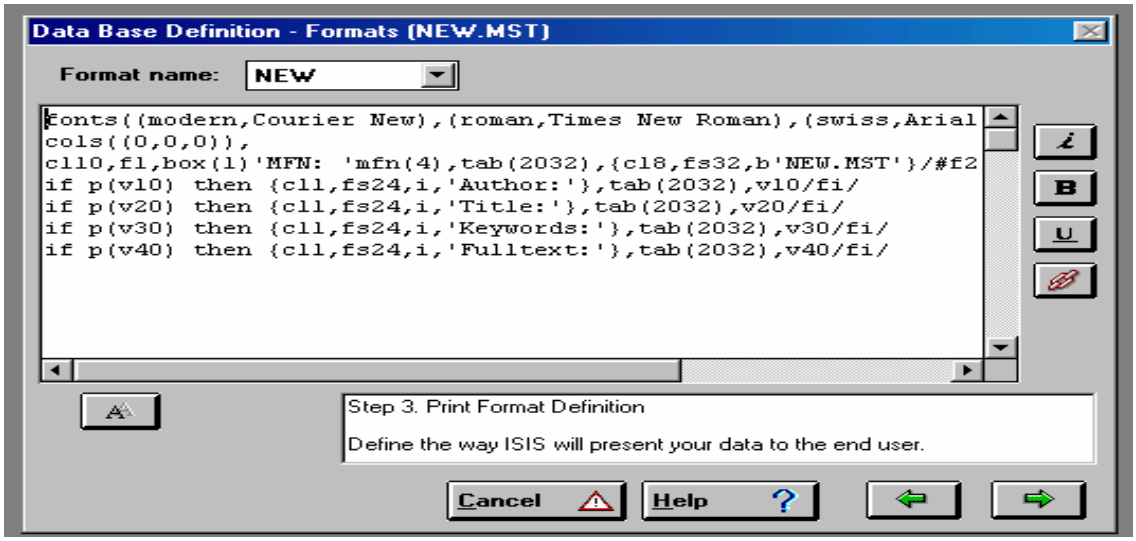
Figure 16 Choose a Print Format



Select the appropriate print format and click **Ok** button to get the print format screen as in Fig 17.

Decorated format is the preferable choice for the beginners.

Figure 17 Print Format



In the print format shown above, you need to add the following format line in order to appear a hypertext link with the words **Click here.** The hyperlink will be cross-linked to the full text document, if the full path of the document is provided in the **tag 40 Full text**

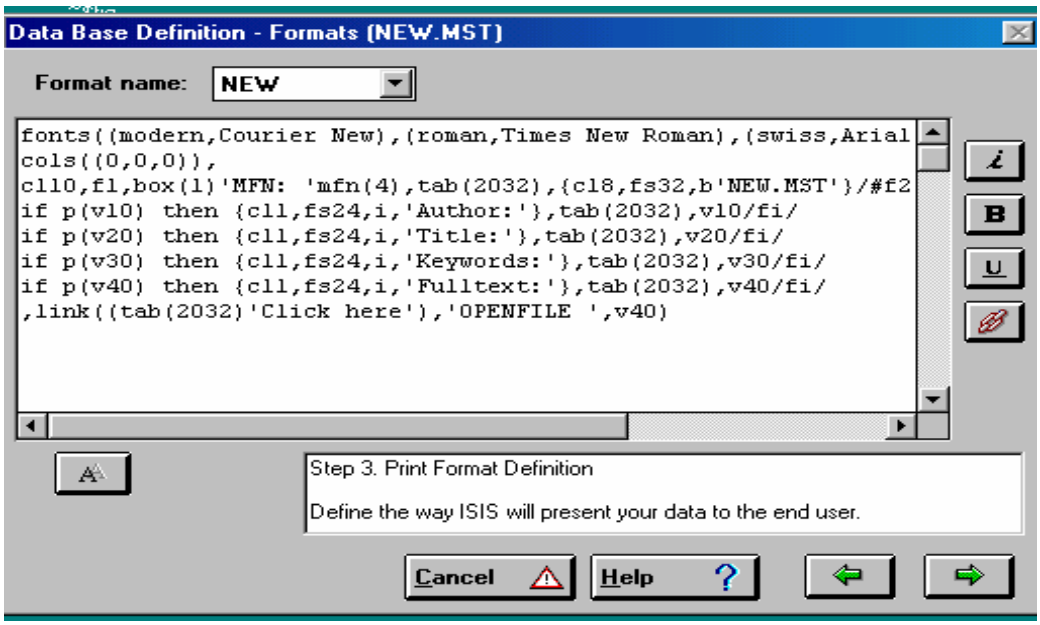
Link (('Click here'), 'OPENFILE ', v40)

Ensure to *provide a space between the OPENFILE command and the single quote*, and the command OPENFILE should be in upper case as shown above.

The meaning of the command is that, when you click on the link **'Click here'**, the click will automatically result in opening the digital document, denoted in the field V40, in a new window.

The resultant print format would appear as in Figure 18.

Figure 18



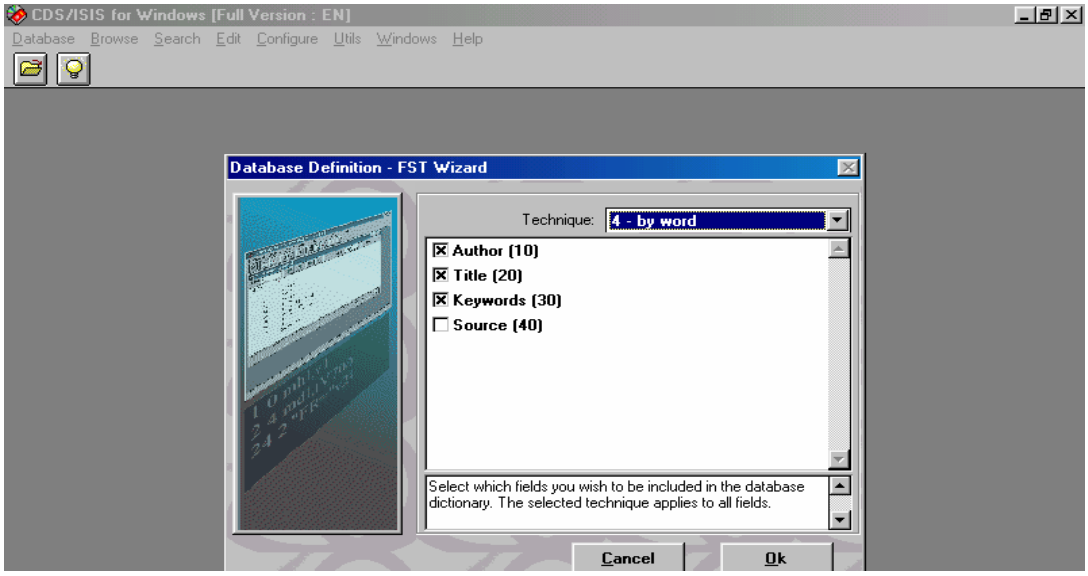
Click the **Side arrow** button to move ahead and you will be asked whether to launch the Dictionary Assistant. Dictionary Assistant will help you to select the fields for indexing and the indexing technique for creation of *Inverted File Index*.

Figure 19

Click **Yes** to launch the Dictionary Assistant.

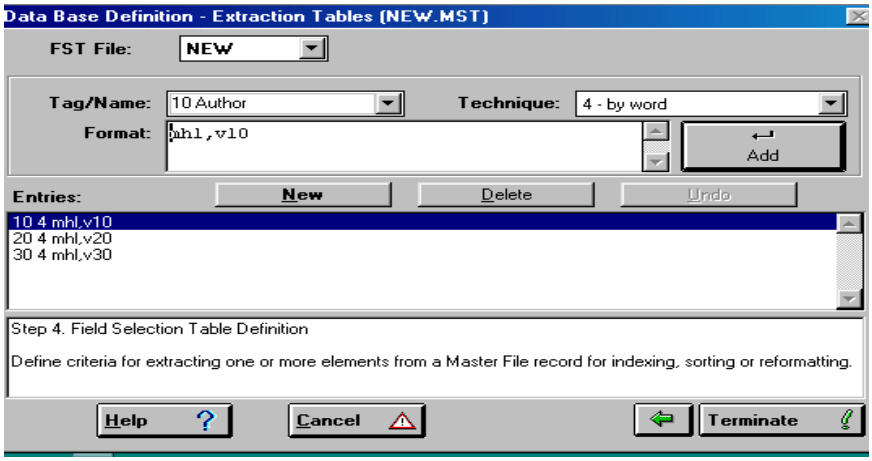
You will then get the following screen.

Figure 20 Field Selection Table



Put **x** mark in the **check boxes** on the left side of the field names and select the appropriate **Technique** for indexing from the dropdown menu at the right top. The most commonly used indexing techniques are *0-by line* and *4-by word*. Select **4-by word** indexing technique in the drop down menu. Then click **Ok** to move on to the next screen.

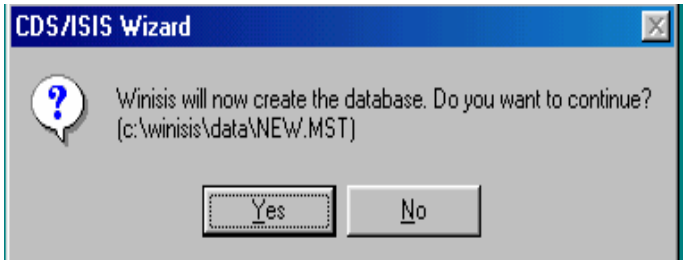
Figure 21 Field Selection Table-Definition



Here you can change the indexing technique. If you need to correct any entry, just click on the entry in the entry box and that will appear in the edit

box shown above. You can edit the text, if needed. Then click the **Terminate** button and you will get the following message.

Figure 22



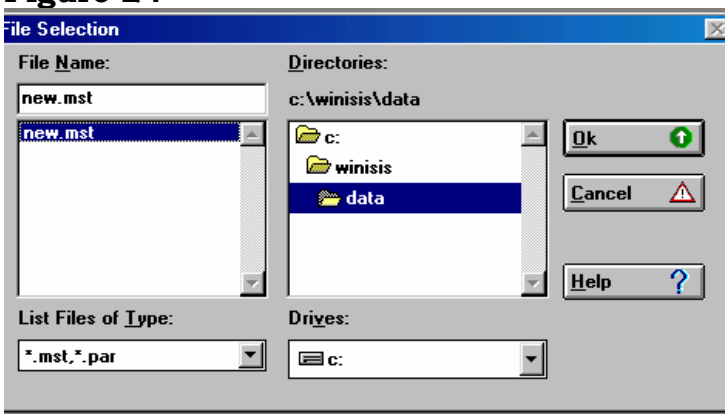
Then click the **Yes** button for confirmation and you will be notified that the database has been created.

Figure 23

Click the **OK** button.

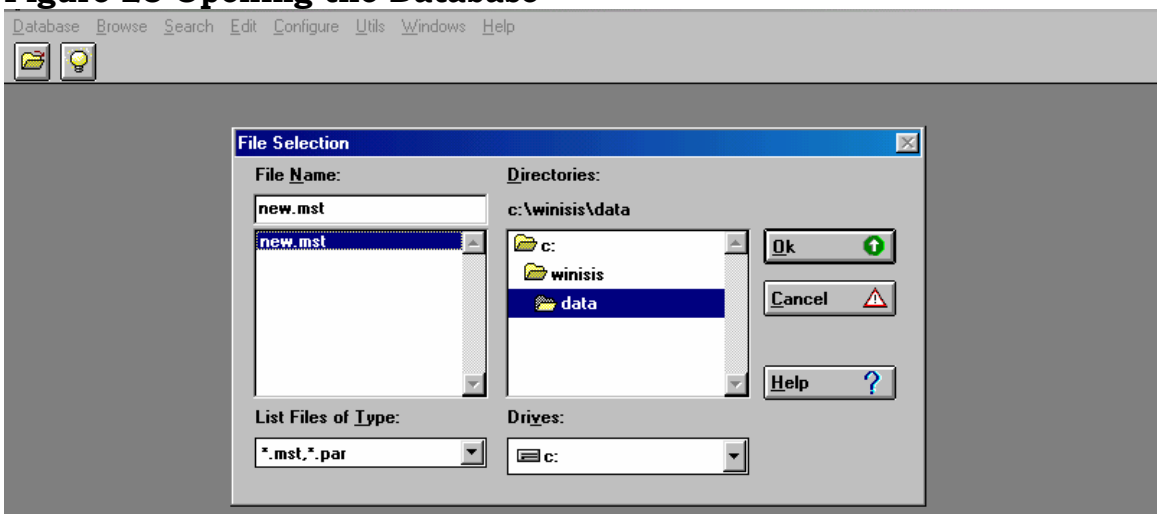
Now creation of the database is over.

Figure 24



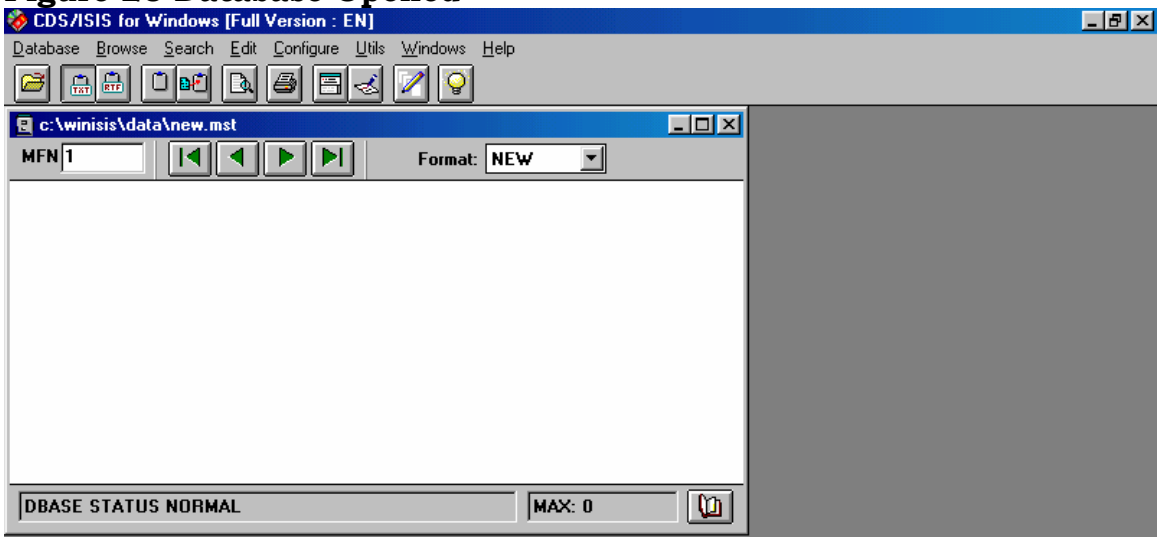
Then select **.mst** file of the new database (*new.mst* in this example)

Figure 25 Opening the Database



Click the **Ok** button to get the following screen.

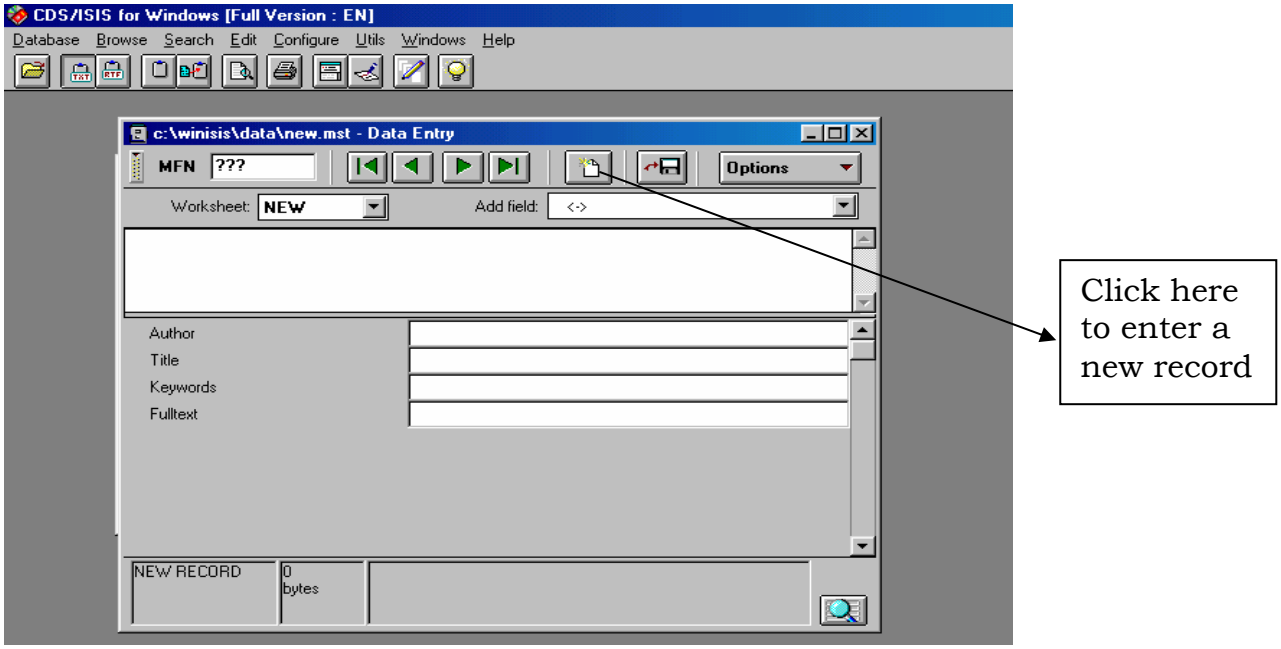
Figure 26 Database Opened



Database definition process is over and you need to enter the data by opening the Winisis as in Fig 26 and by clicking the **Data entry** under **Edit** menu.

You will then get the following screen in Figure 27.

Figure 27 Data Entry Window



Entering Data in the Database

Enter the data of all documents of the digital collection. The full path of the fulltext documents including extension (.pdf, .doc etc.) should be entered in the **Fulltext** field.

Figure 28

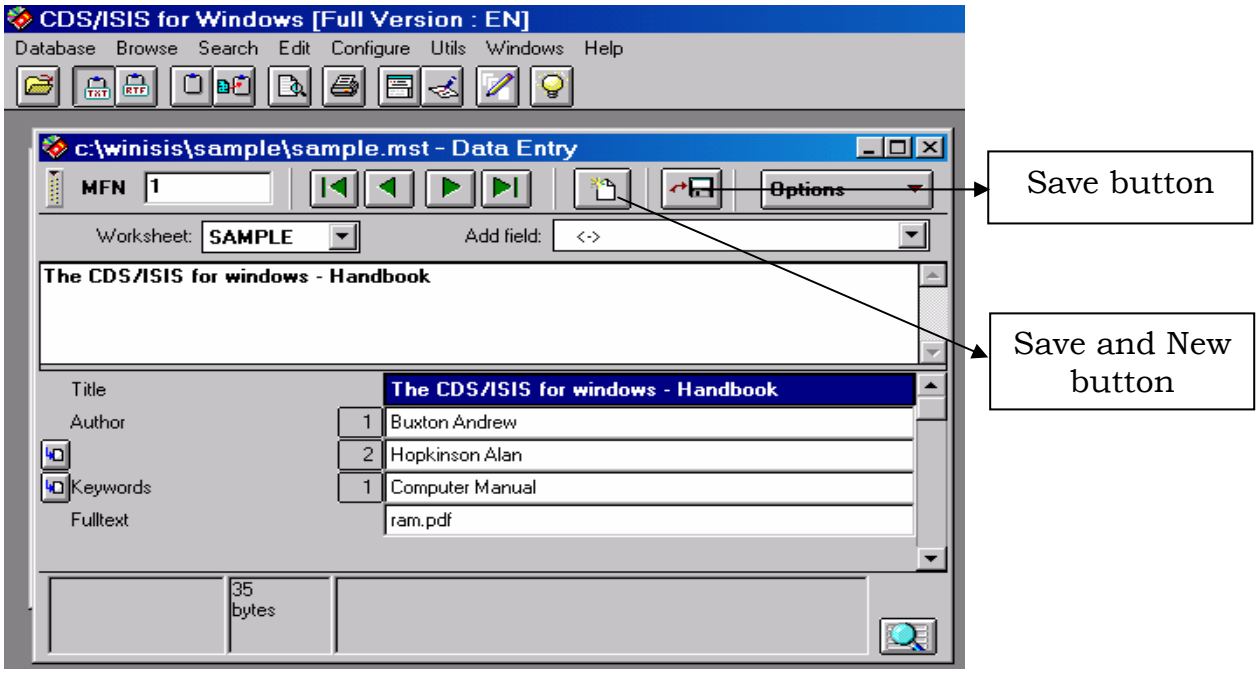
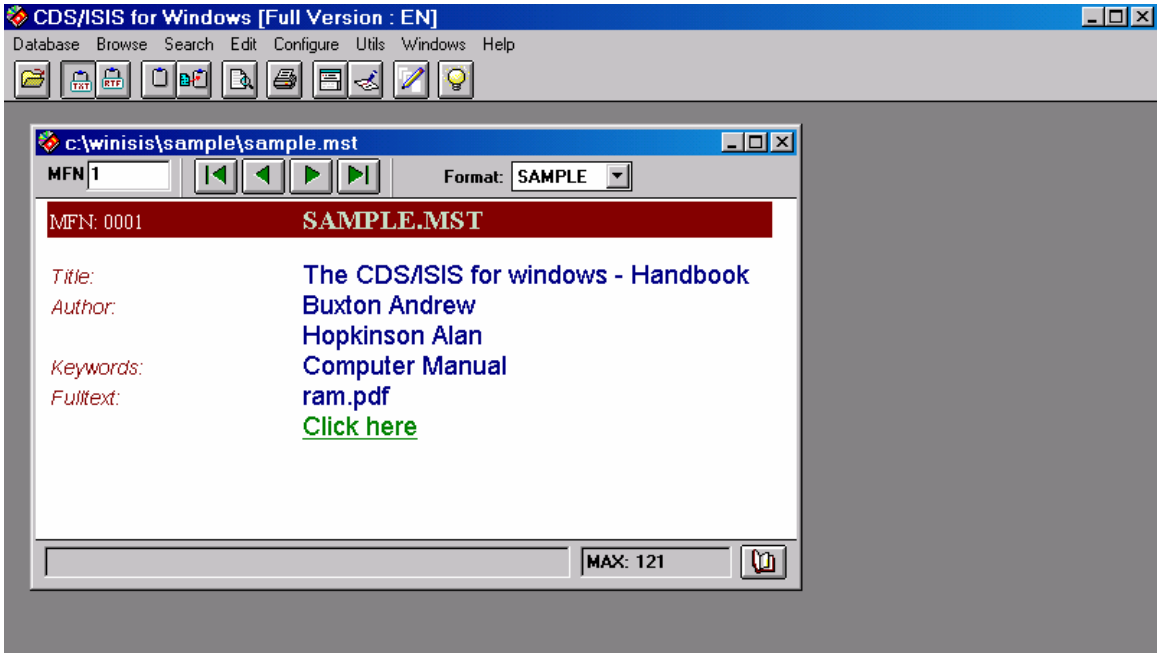


Figure 29



(*If you provide the full path of the documents in the **40 Fulltext** field and place the documents in the location mentioned in the field, a click on the link will open the document automatically. The hyperlink with the words 'Click here' serve no purpose in the above case as filename alone is provided. But the link is provided to make the concept clear*).

The database creation is over and you can pass on to the phase of creation of web front end.

3. Installation of Apache Webserver

If you want the remote users in your network to access the database stored in your computer, you have to make your computer node a webserver, with a webserver software.

The Winisis database can be made accessible to remote users over a computer network with GenisisWeb front-end, using Apache webserver software.

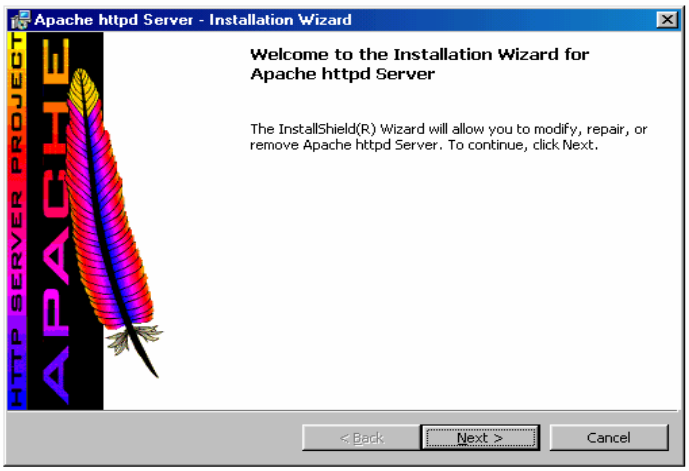
A webserver software **Apache**[3] and **GenisisWeb** need to be installed, for the purpose.

Apache is a free software used for making any computer, a server in a client-server mode. Apache software is obtainable either from the **Digital Document Archiving Tools & Resources** cd-rom brought out by KILA or from Internet.

Installation Process

Double click on the icon and installation of Apache will start

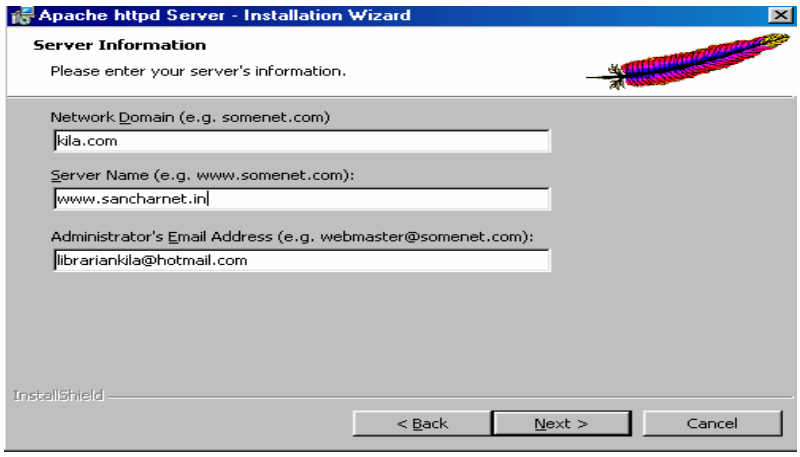
Figure 30



Click on the **Next** button.

[3] **Apache** software is used for making any computer a *file server* in the client-server mode. **Apache 1.3.17** is obtainable from the 2001 Unesco cd-rom entitled ***Information processing Tools*** that contained **CDS/ISIS 1.4.** Many versions of the software are available freely from internet site http://www.apache.org/. But ensure that Apache is installed in the folder C:/Program Files/Apache Group/Apache for our purpose.

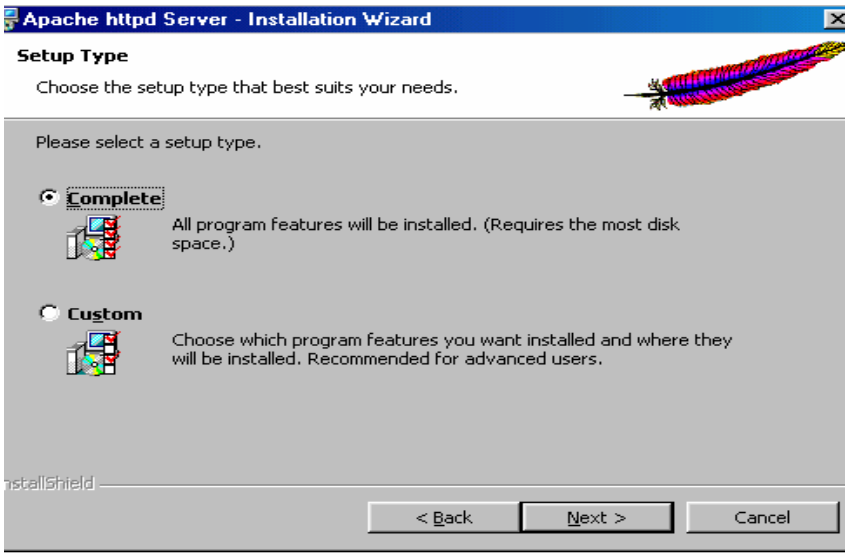
Figure 31



Here you have to type any domain name, server name and email address. These names need not be real.

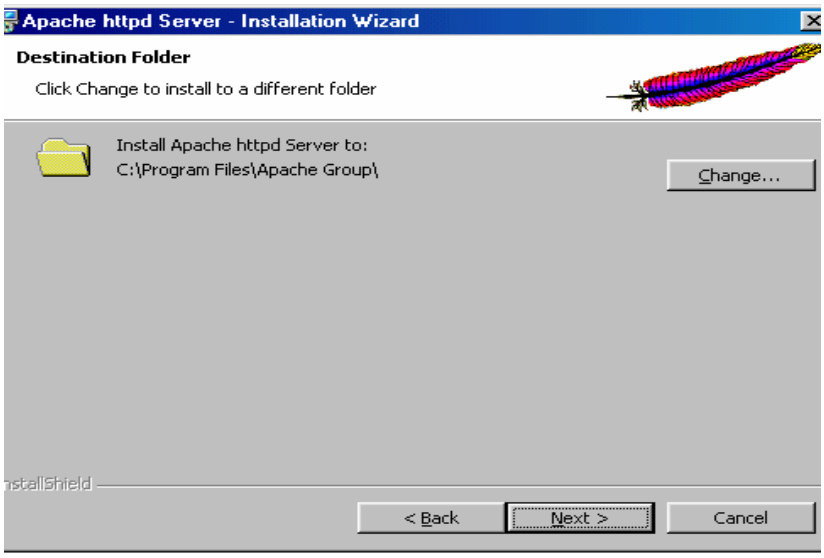
Click the **Next** button and the following screen will appear.

Figure 32



Select **Complete** (to install all program features) and click the **Next** button.

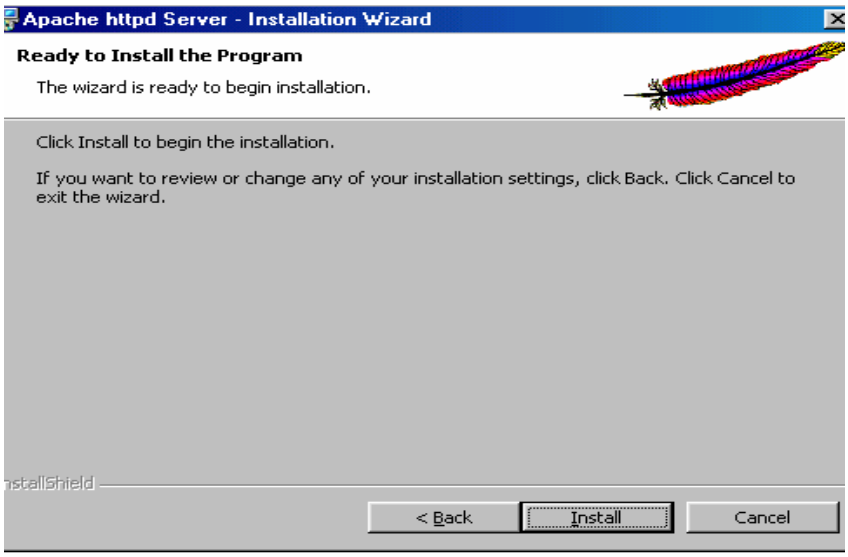
Figure 33



Click on the **Next** button confirming the suggested path for installation, if you are using the version 1.3.17.

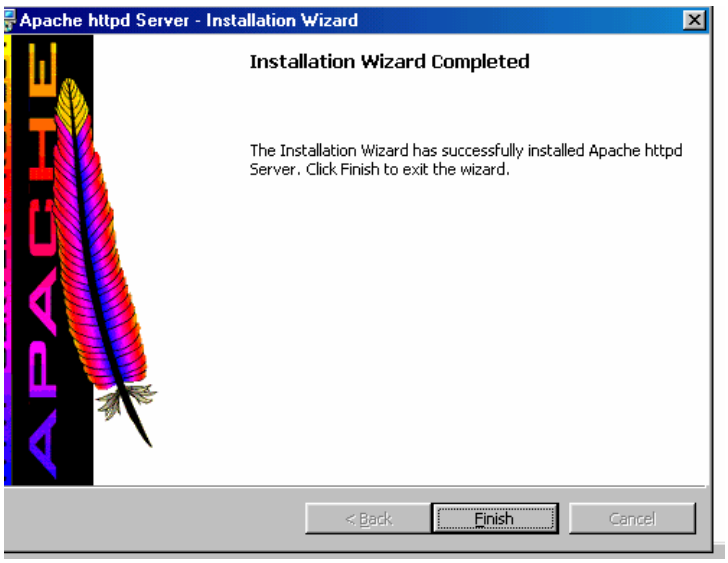
If you are using Apache 2.2.3 version, ensure to change the path to C:\Program Files\ApacheGroup\Apache as destination folder while installing.

Figure 34



Click on the **Install** button and you will get the following screen.

Figure 35

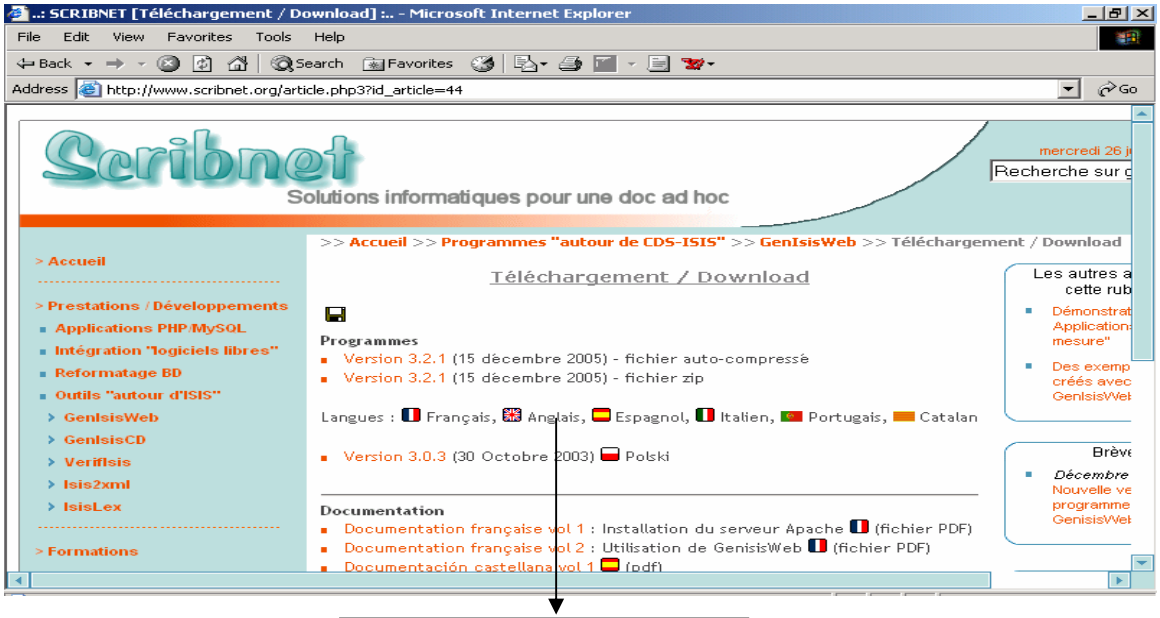


Click the **Finish** button, when the installation process is completed.

Once Apache is installed, you can start installing GenisisWeb.

4. Installation of GenisisWeb

Download the GenisisWeb program from www.scribnet.org website or Unesco website.



Click here to download English version

Unzip the downloaded file.

Figure 36 GenisisWeb Zip File

Double click on it and it will show the following screen suggesting a path where you want to copy the files. Give the proper path and click on the **Decompresser** button (Fig.37)

Figure 37

When you decompresser the downloaded zipped file, you will get the following three files.

Figure 38

[4]Double click on the **setup.exe** file shown above

Then you will get the first screen in the installation process as follows: -

Figure 39

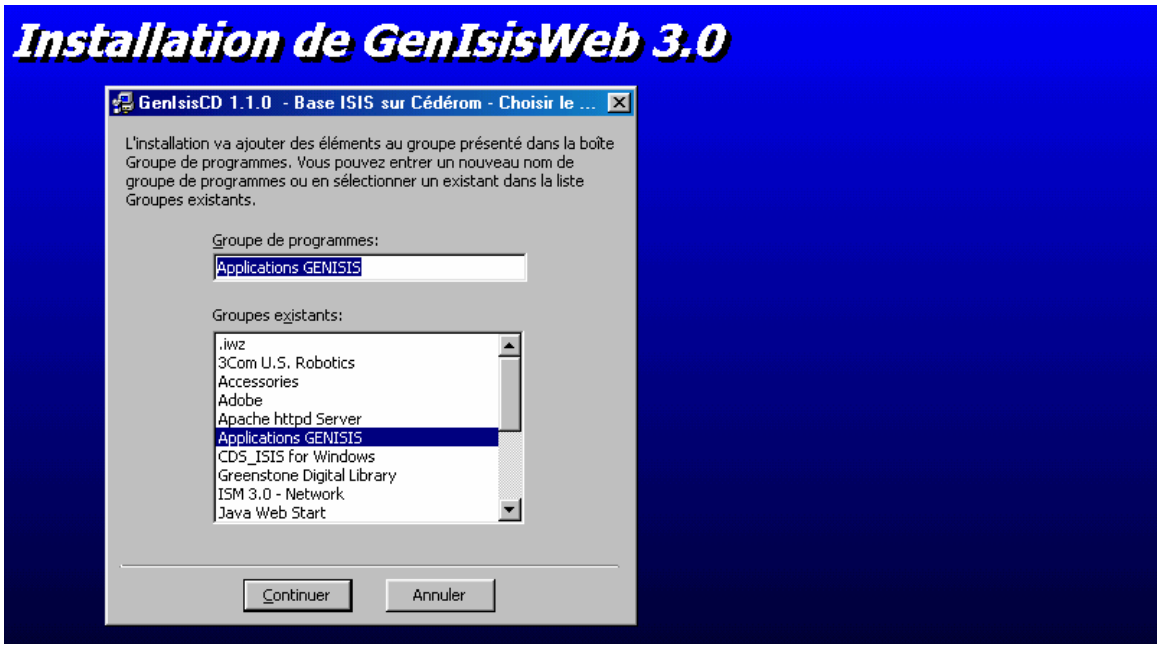
Click on the **OK** button to get the following screen

[4] When you double click *setup.exe*, an installation wizard will appear and you can install the program by opting the default values in the wizard by pressing the return key all the time till the installation over.

Figure 40

Click on the **computer icon** on the left side in the above screen.

Figure 41



Click on the **Continuer** button

Figure 42

Then click on the **OK** button to finalize the installation.

Copy two GenisisWeb Files to Apache - A Pre-requisite

Before you start the GenisisWeb for the first time, copy the following files.

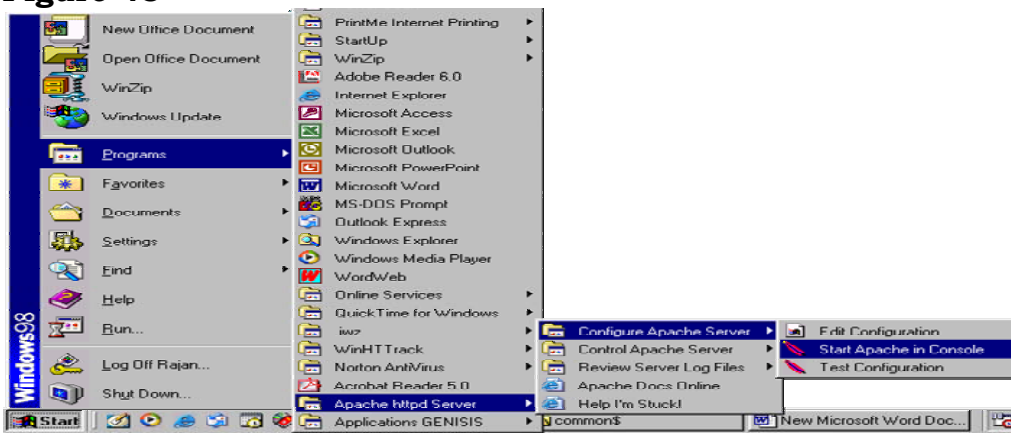
1. *Copy the "**wwwisis**" folder in **GenisisWeb** to "**htdocs**" folder in "**Apache**".*
2. *Copy the contents (all files) in the "**bireme**" folder in "**GenisisWeb**" to the "**cgi-bin**" folder in "**Apache**"*

Starting Apache Web Server

Before you start GenisisWeb, you have to run the Apache webserver. To start Apache, follow the steps as follows: -

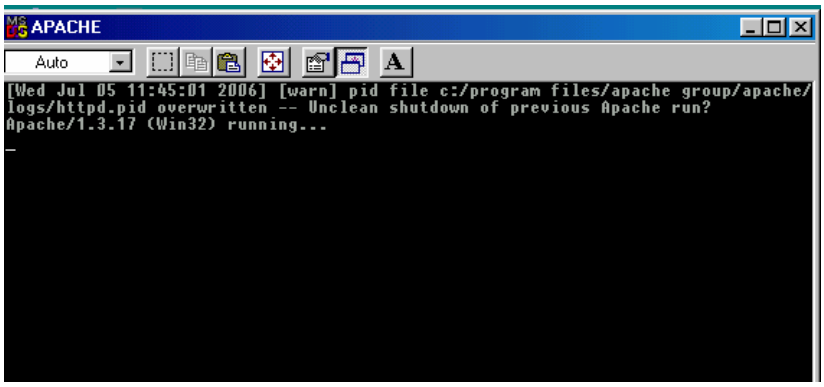
Click on **Start ⇒ Programs ⇒ Apache httpd Server ⇒ Configure Apache Server ⇒ Start Apache in Console**

Figure 43



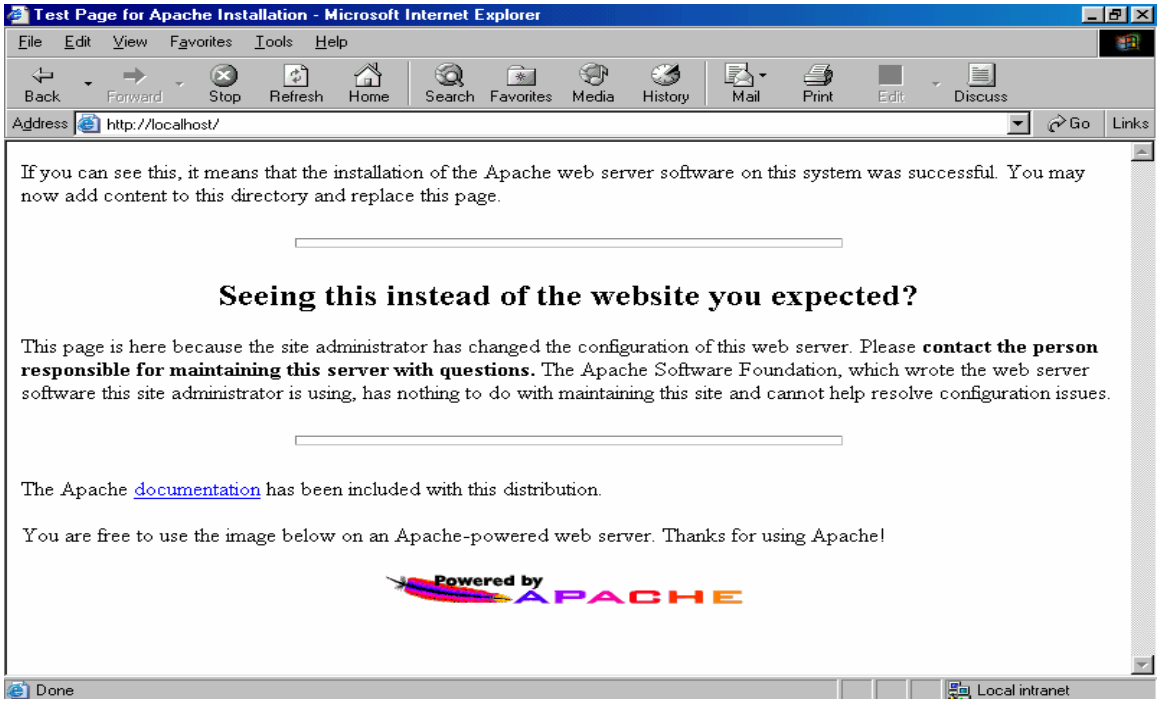
When Apache starts running, you will get the following window (Fig.44). Then click on the **Esc** key in the computer or **minimize** button on the screen.

Figure 44



You can now test to see if Apache is running properly. Open the web browser and type the address "local host" in the address bar and you should get the following screen, if Apache is running. (Fig.16)

Figure 45



You can then design your web interface for Winisis with GenisisWeb

Creating the Web Front-end with GenisisWeb

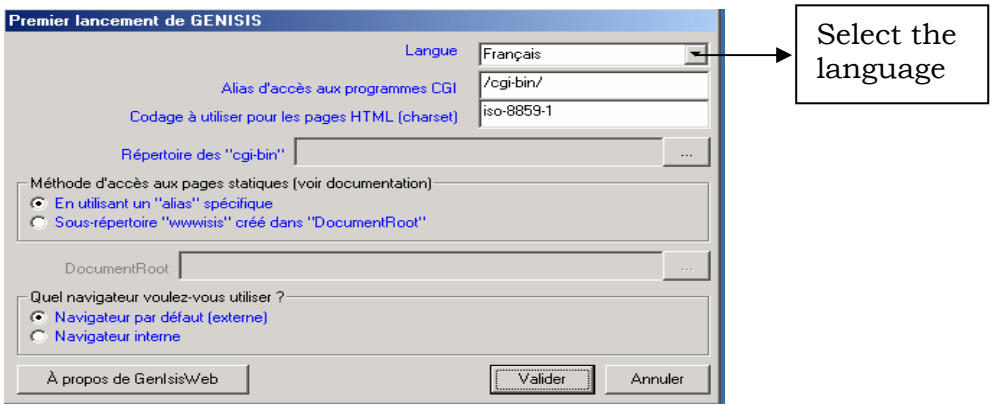
Starting GenisisWeb

Convert the GenisisWeb in to English version, when you run it for the first time, by following the steps shown below (Fig.46)

Figure 46

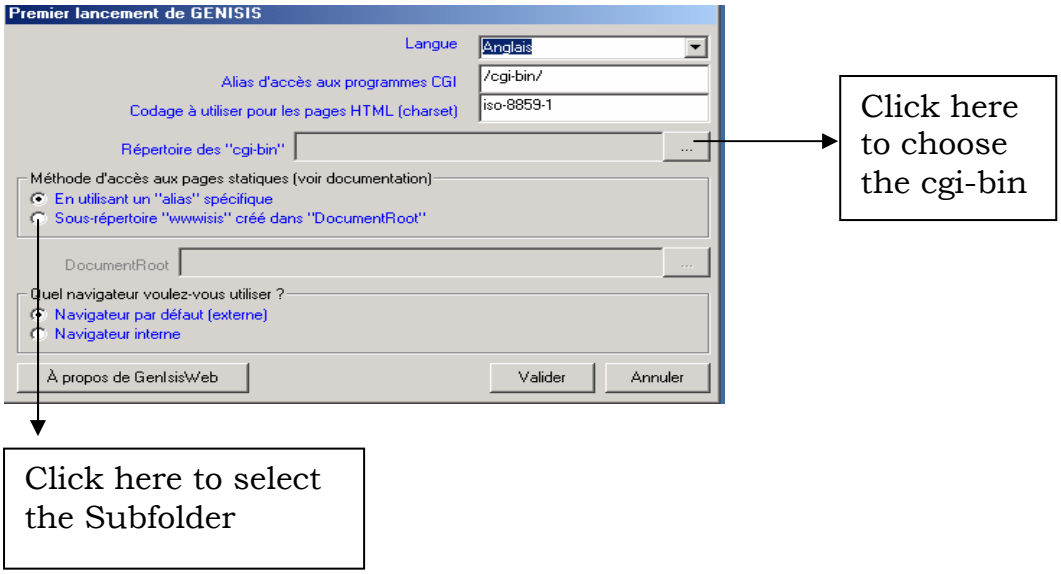
You will then get the following screen (Fig.47).

Figure 47



Select language as **English (Angalis)**

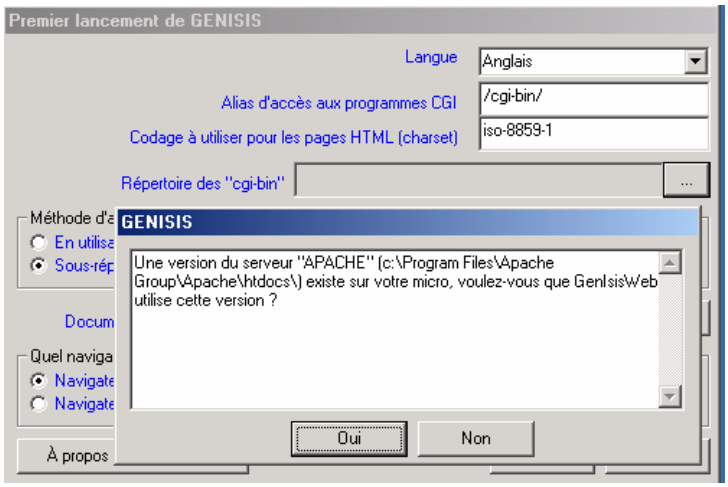
Figure 48



Select the **Sub-folder "wwwisis" in "Document root"** and click the side button.

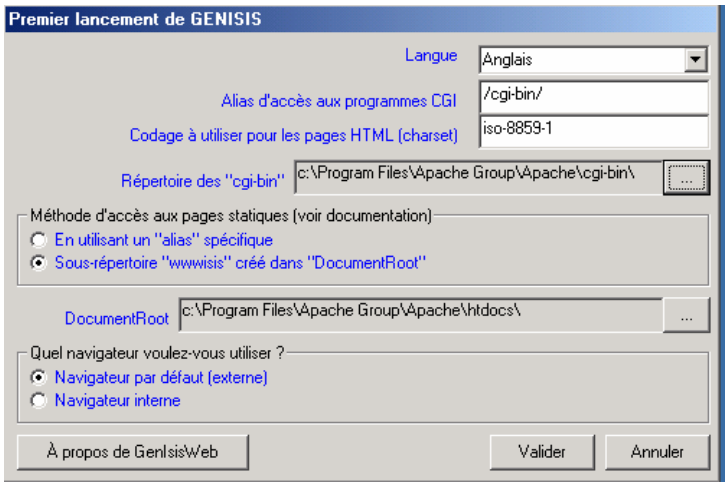
Then the following screen with a message in French, asking you whether to use the Apache, will appear.

Figure 49



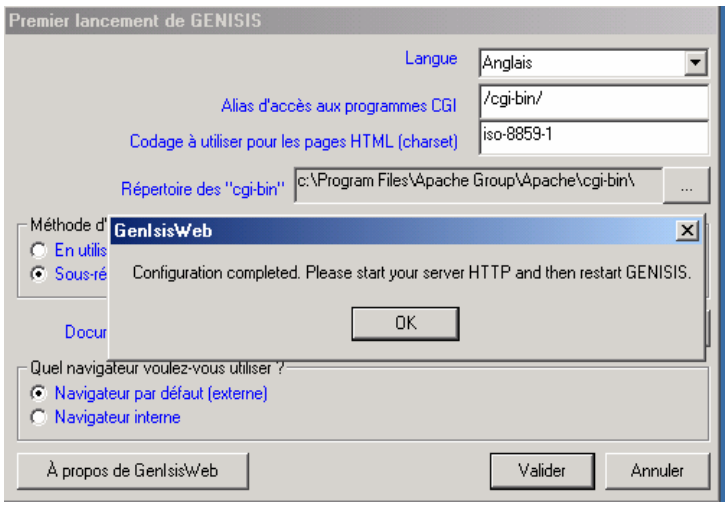
Click the **Qui** button

Figure 50



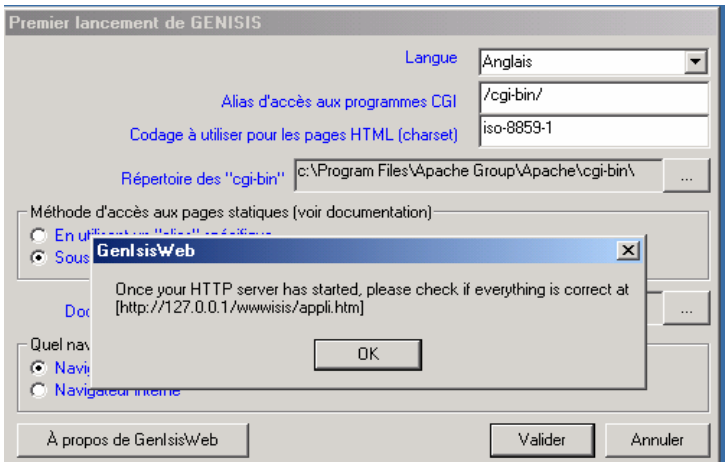
Click the **Valider** button

Figure 51



Click the **Ok** button

Figure 52



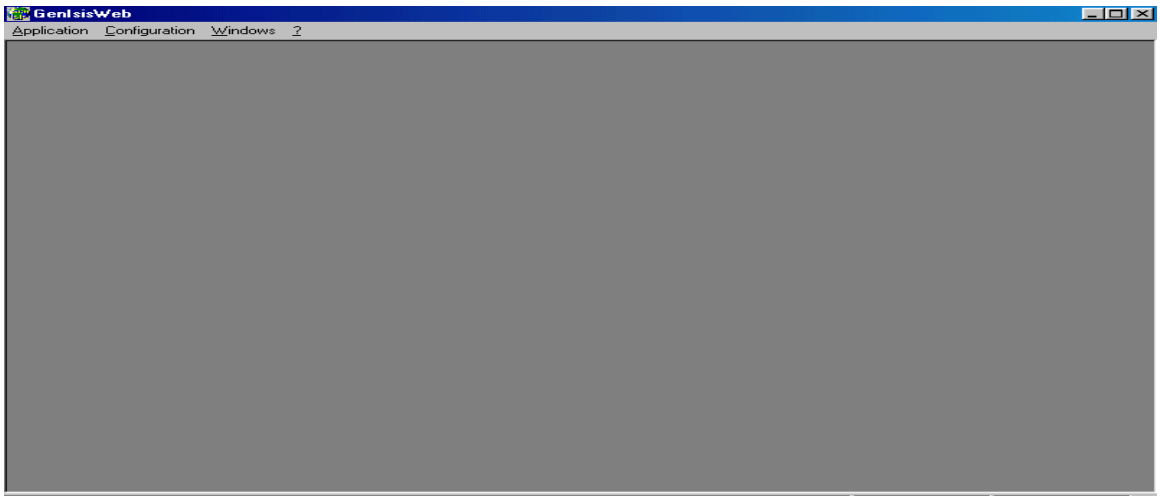
Click the **Ok** button.

Check whether everything is correct as instructed in the above screen. Now you have to restart GenisisWeb as detailed in the next section.

Creating GenisisWeb Application

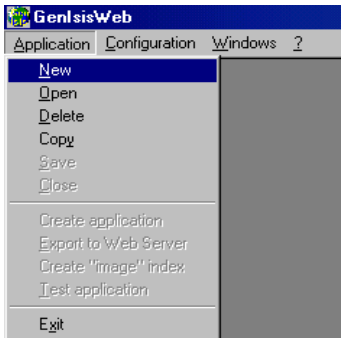
Open GeinsisWeb by clicking on **Start** ⇒ **Programs** ⇒ **Application Genisis** ⇒ **GenisisWeb-Access base ISIS sur le web**. Then you will get the following screen (Fig.53)

Figure 53



Click on **Application** menu and select **New** (Fig. 54)

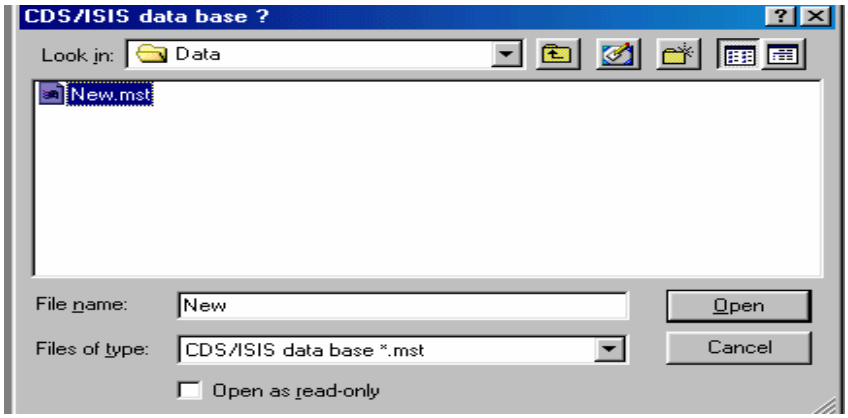
Figure 54



Then the following screen will appear showing the names of Winisis database available in the computer.

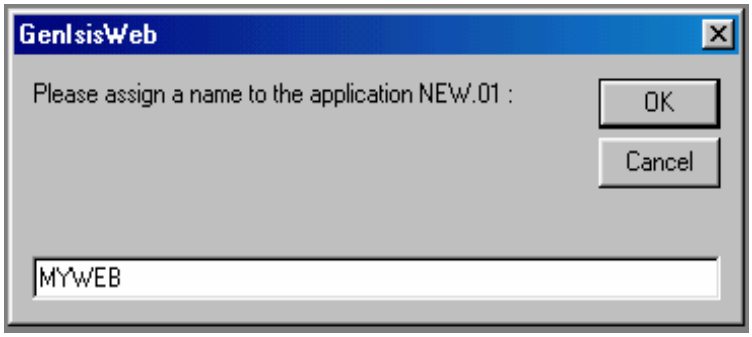
If your Winisis data is in any other folder other than in the default folder (C:\Winisis\Data), choose the **.mst** file from that folder.

Figure 55



When you select the database (.mst) and click the **Open** button in the above screen, you will get the following screen.

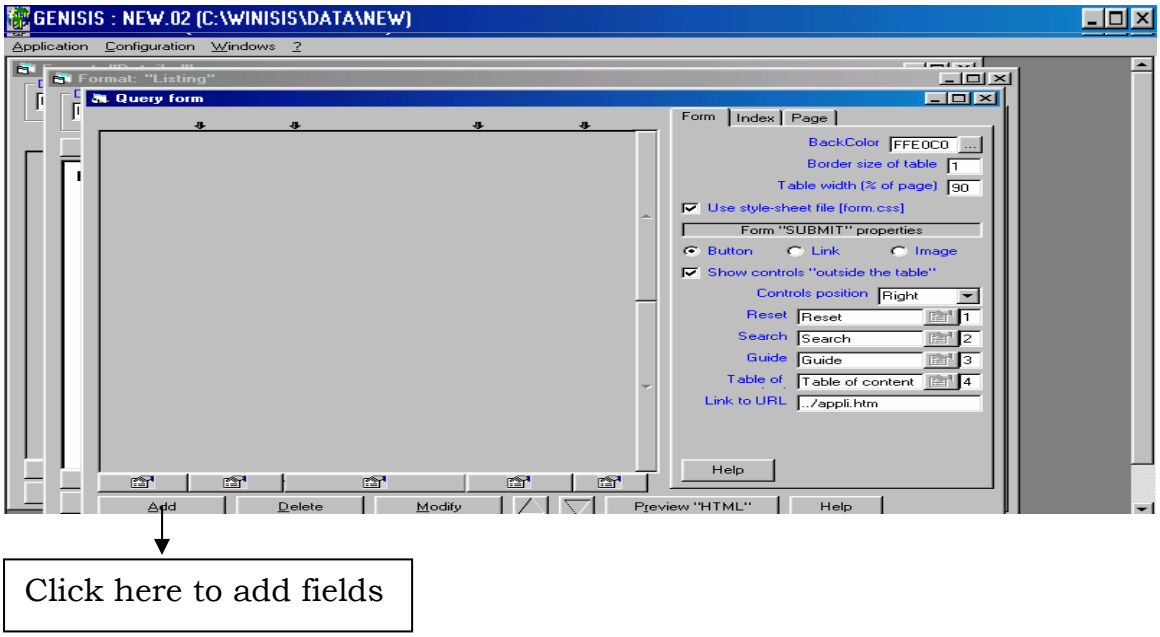
Figure 56



Give any name like **MYWEB** for your application and click **OK**

You will get three *form design formats* as in Fig.57

Figure 57 Form Design Formats



The form design formats are

- Query form
- Format 'listing'
- Format 'details'

Query form : allows you to design the web like *Query Form* - a front-end form for searching the Winisis database.

Format 'listing' : allows you to design an *initial display format.*

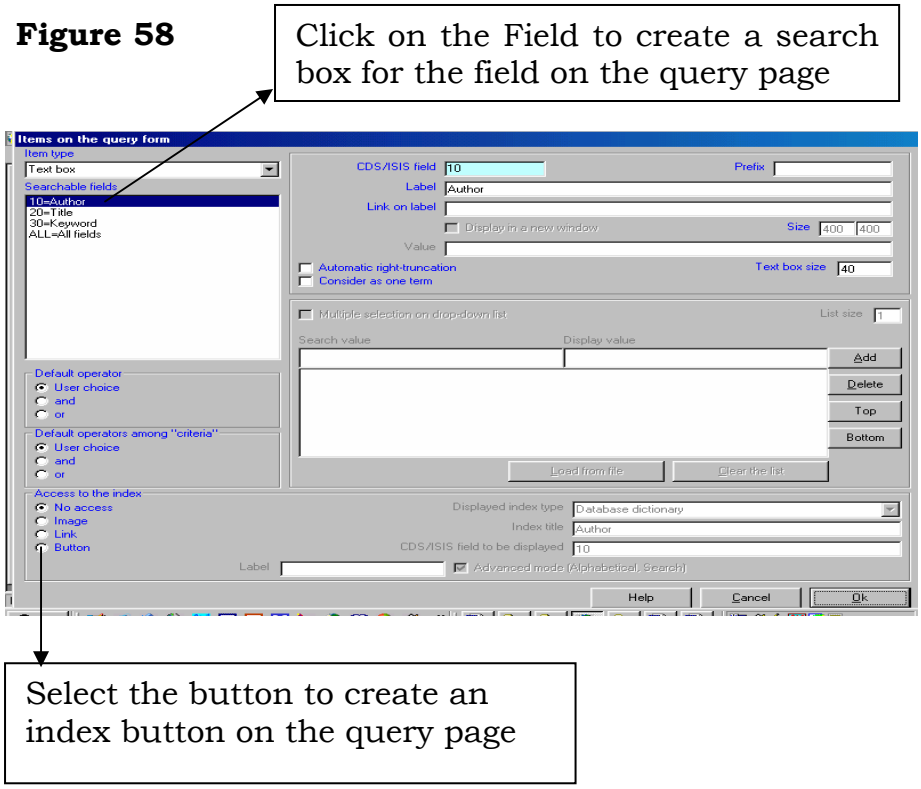
Format 'details': allows you to design a d*etailed display format.* Since detailed display format is inessential for our purpose we haven't described the creation of Format 'details'.

You have to create the search page with Query form and the display format with *Format'listing'.*

Designing the Query Form

To design the query form, you have to click the **Add** button in order to add fields. Click the **Add** button at the bottom of the query form and you will get the following screen: -

Figure 58



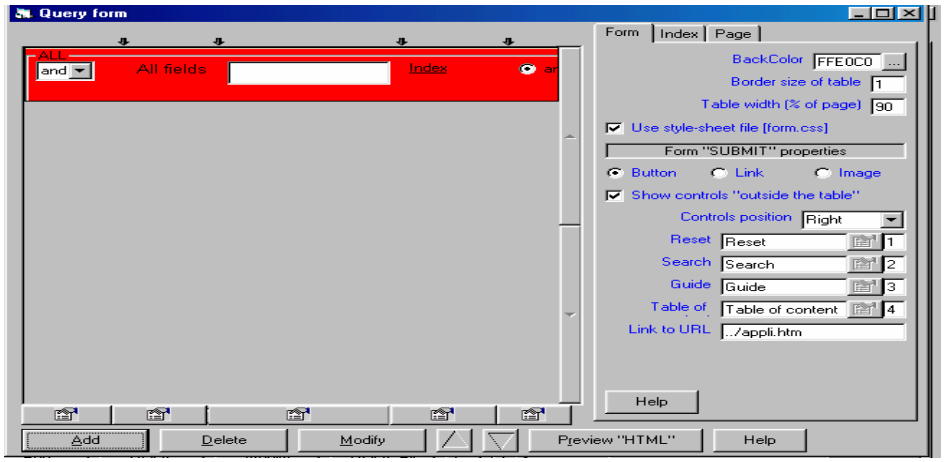
In the above screen, it is preferable to select **All fields** from the left panel (as it allows search by any term in the inverted file index of the database) and then click **Ok**. This will make the query form very simple.

The items appearing on the left panel are the *fields* you had included in your Winisis database. You may select only one field at a time so as to appear that search box in the Query form and click the **Ok** button every time. If you want to select more fields, you have to click on **Add** button and select fields again and again until you put all those fields.

As well, you can select your option with regard to the search operators and the appearance of the *index button* by clicking the check boxes on the left side of the above screen. Index button would help the users to choose the indexed terms.

Now you will get the following window. The screen below shows that **All fields** alone has been chosen.

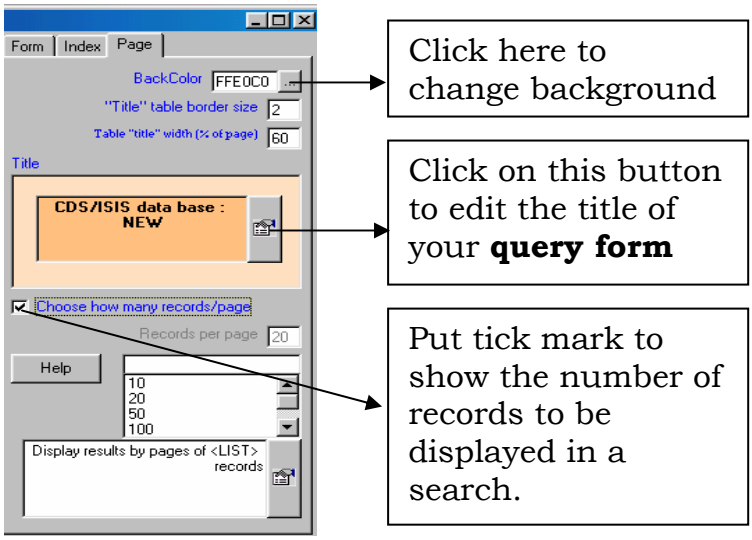
Figure 59



Select any or all the three tabs **Form**, **Index** and **Page** appearing on the right side of the above screen for appropriately modifying the 'look' of the *Search-box area*, *Index Page* and *Display Area of query form* respectively. You can play with the options in the screen and can choose anything you prefer to have a beautiful look for your web front end. You can change background color and font parameters.

How to Change the Page Display of the Query Form

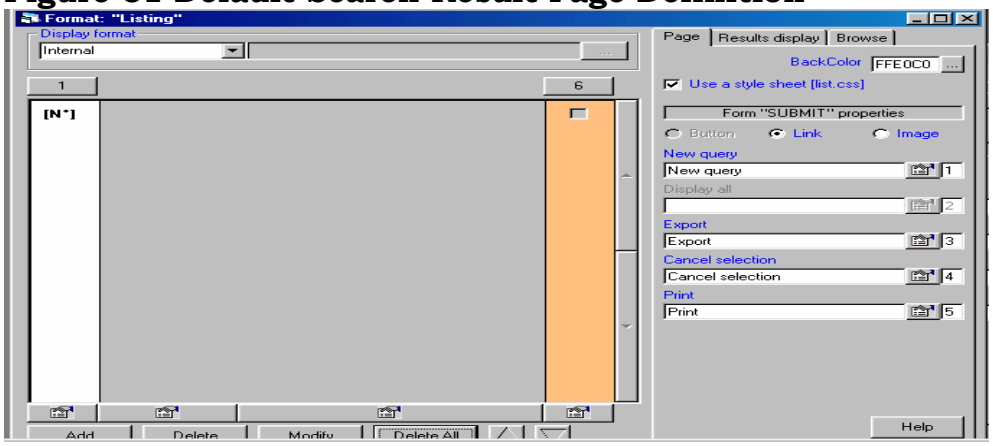
Figure 60



Designing Format-'listing'

Then click on the 'Format-listing' window and you will get the following screen. It will create a default search-result page, which will display all fields contained in the database, if you do not do anything at all.

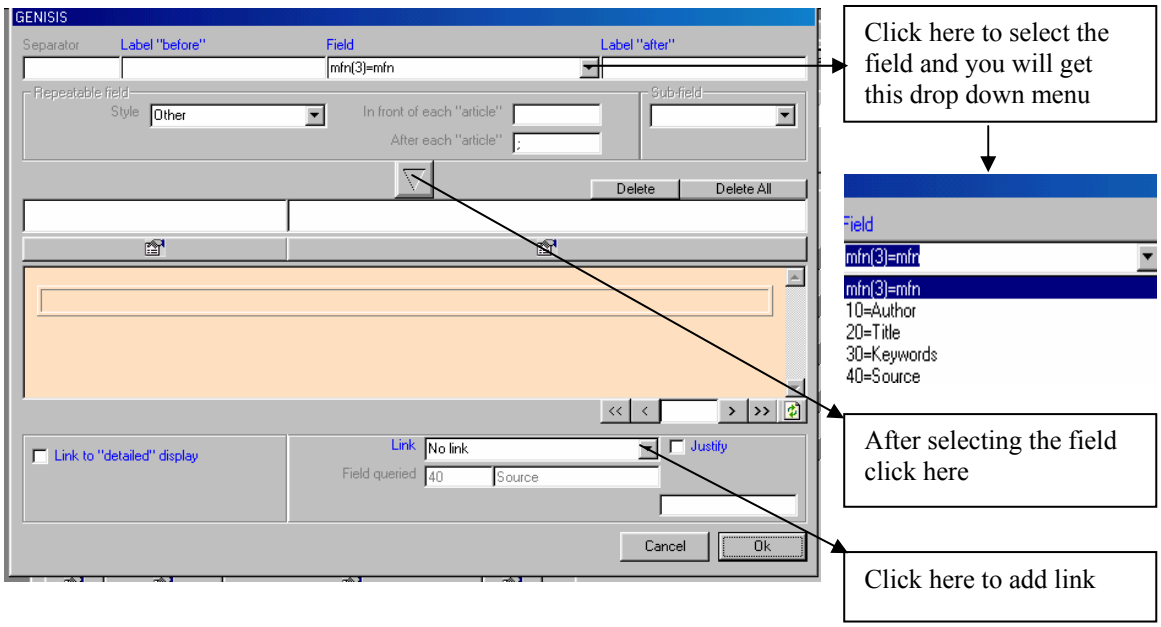
Figure 61 Default Search-Result Page Definition



Or else, you can design your own customised search-result page with **Add** button, as detailed below: -

Click the **Add** button at the bottom so as to get the following window

Figure 62 Create Customised Search-Result Page

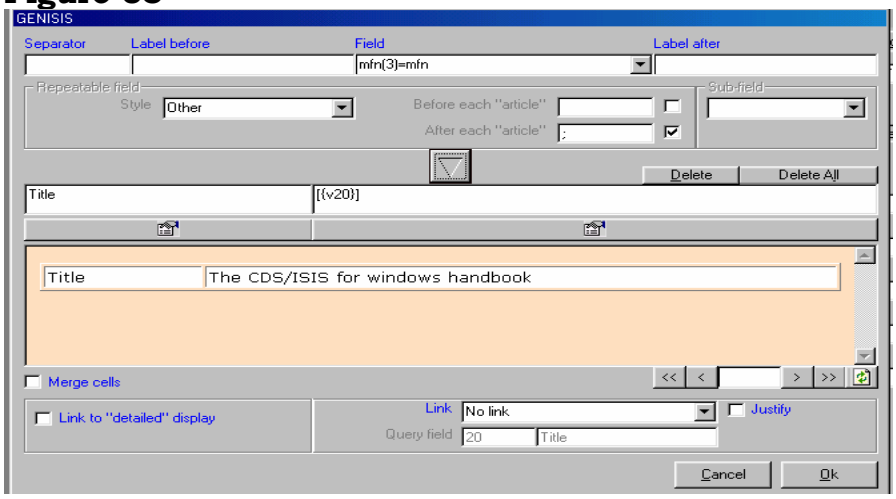


In the above screen, select the appropriate **Field** by clicking the drop down menu at the top.

Then click the **down arrow** button at the middle and finally click the **Ok** button.

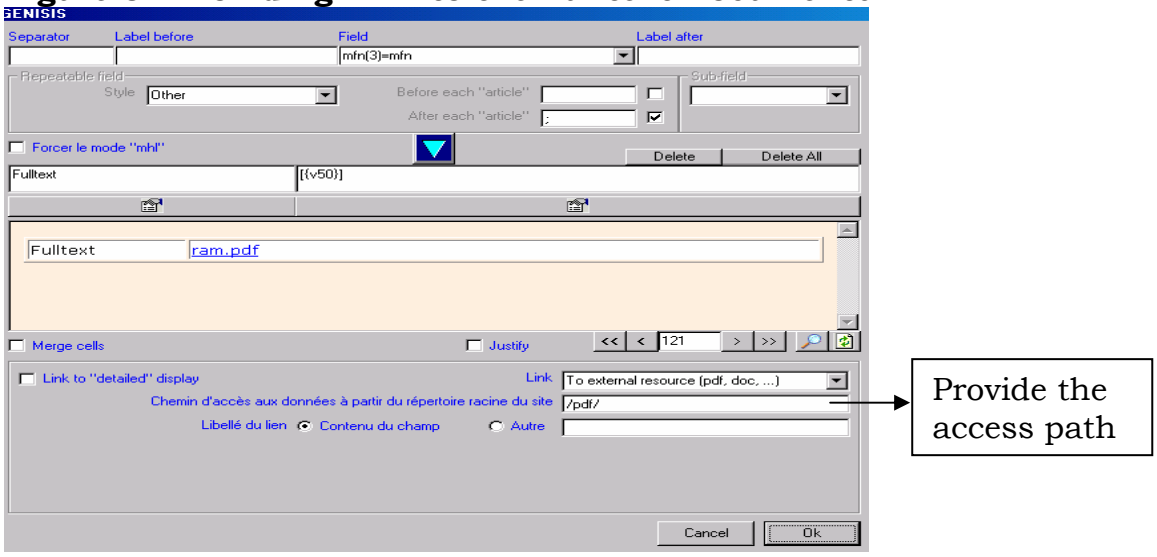
Now select the next *Field* by clicking **Add** button till all **Fields** except **Fulltext** are selected. *Fulltext* field needs to be provided with links, for opening the fulltext document.

Figure 63



Now add the **Fulltext** field. The **Fulltext** field need to have a link to the full text documents.

Figure 64 Providing Link to the Fulltext Documents



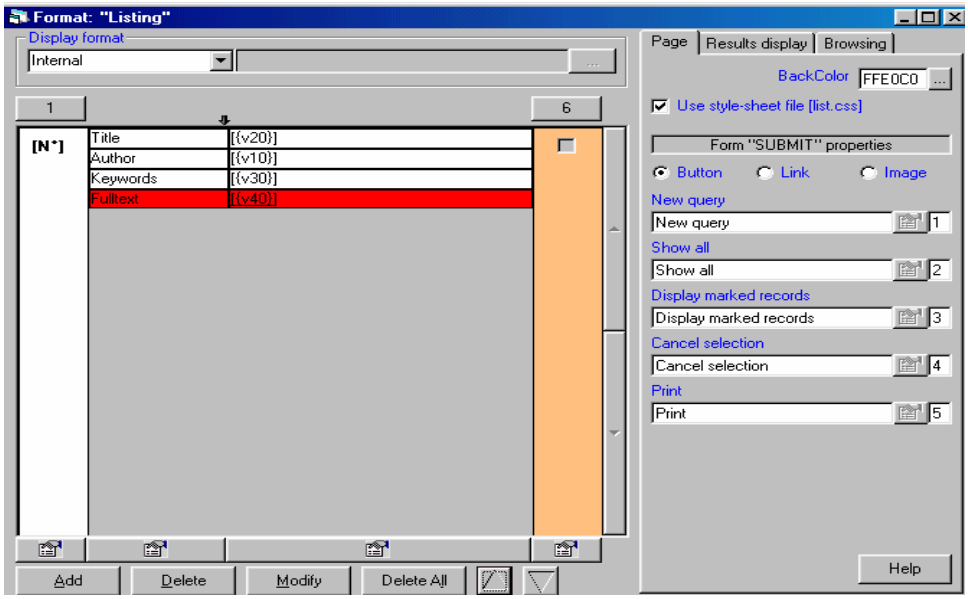
Click on the **down arrow** button at the middle as above, so as to display the **Fulltext** file name *ram.pdf*.

Then select the drop down menu appearing against **link** and select **To external resource (pdf, doc...**), if the full text documents are pdf, doc, html etc.

Then provide the access path to the subfolder where you put the fulltext documents[5] (eg. /pdf/) in *htdocs* ('Document root') as shown in the above figure. Now click **Ok** button to save it.

You may move on to the next screen in Fig 65

Figure 65



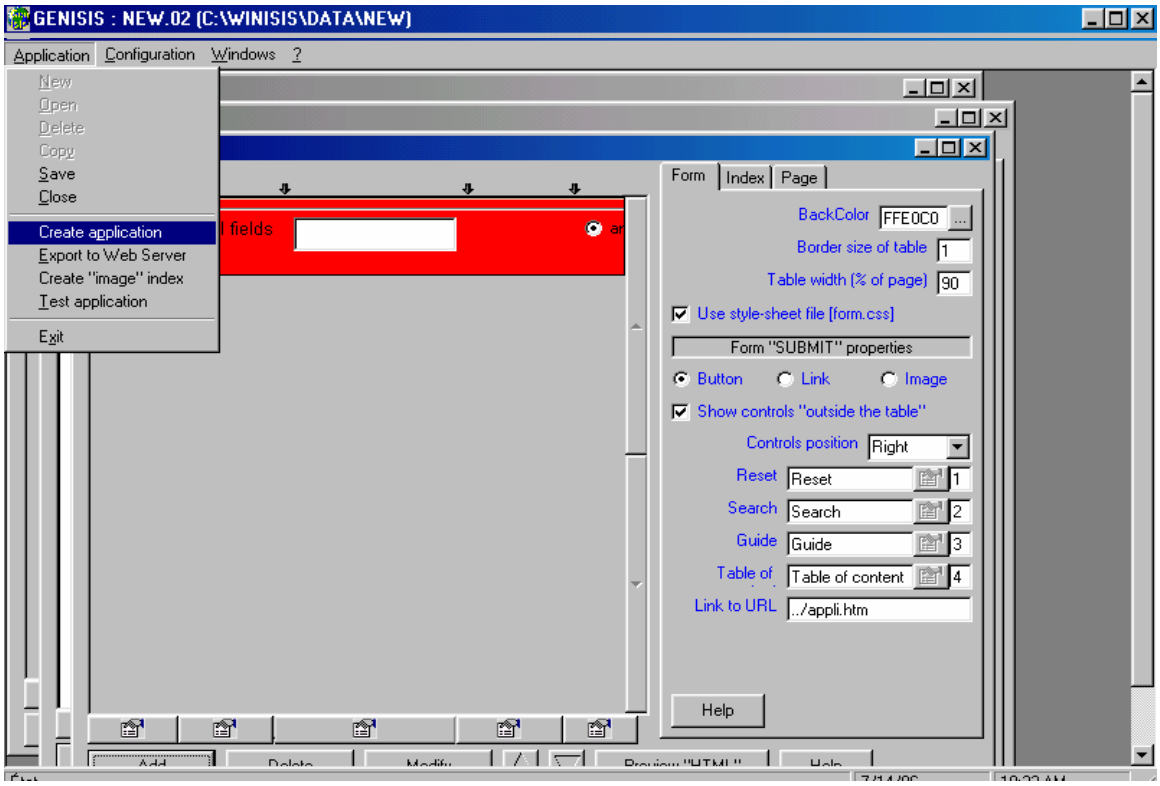
Designing of two forms (query form & format 'listing') as detailed above are over and you may ignore the **Format 'Details'**.

Create a subfolder (say *pdf)* in **htdocs** and copy all the full-text documents in that folder.

Then click on **Application** drop down menu and select **Create application** as in figure 66

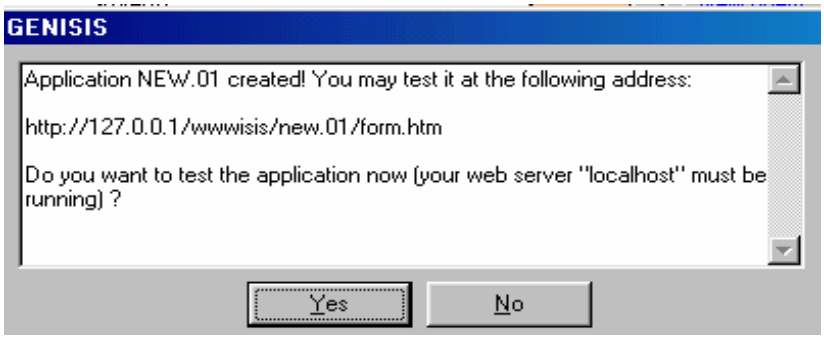
[5] You should create a subfolder (choose any name such as *pdf* for the subfolder) in the folder ...*Apache**htdocs*\ and copy all the fulltext documents in it.

Figure 66 Create Application



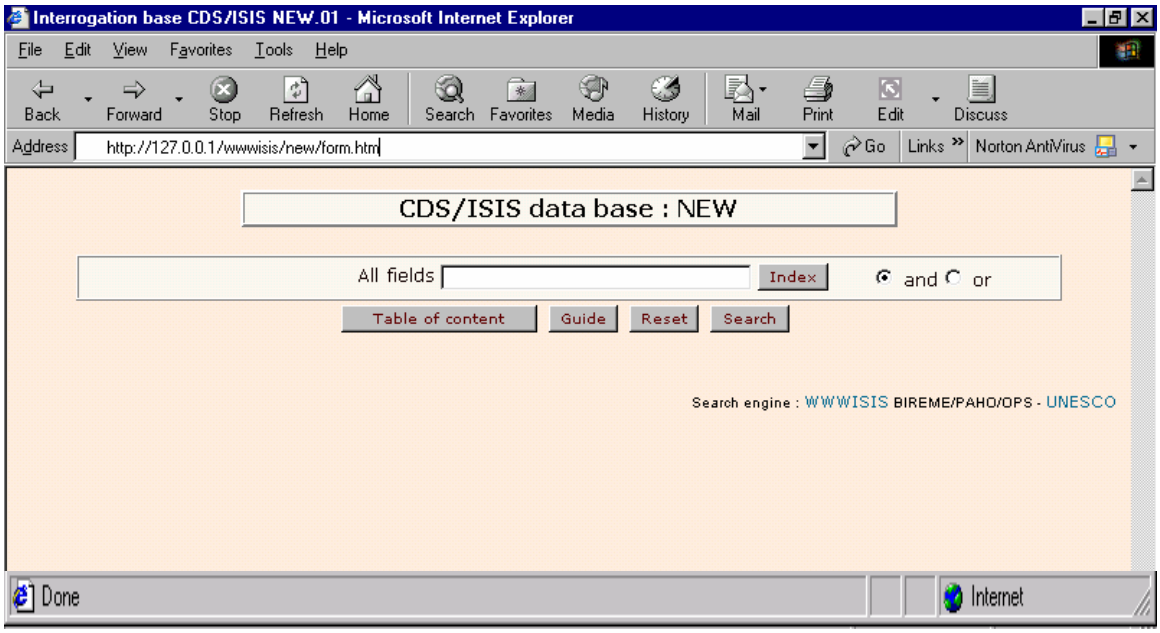
You will be lead to the following message. (Fig.67)

Figure 67 Test the Application



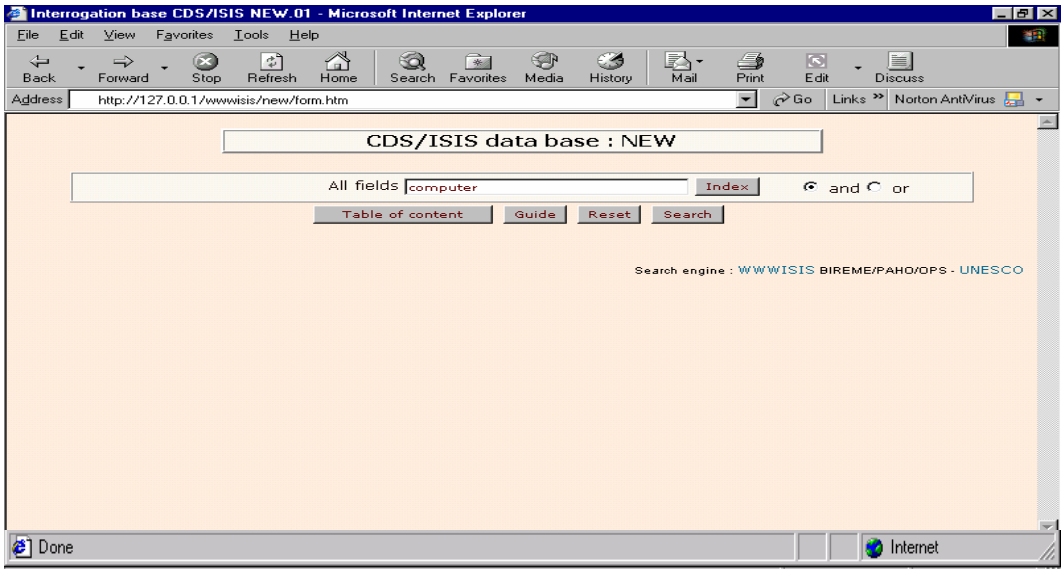
Click on the **Yes** button and the query form you had created will appear as follows as in Fig 68.

Figure 68 A Test Window -Query Page



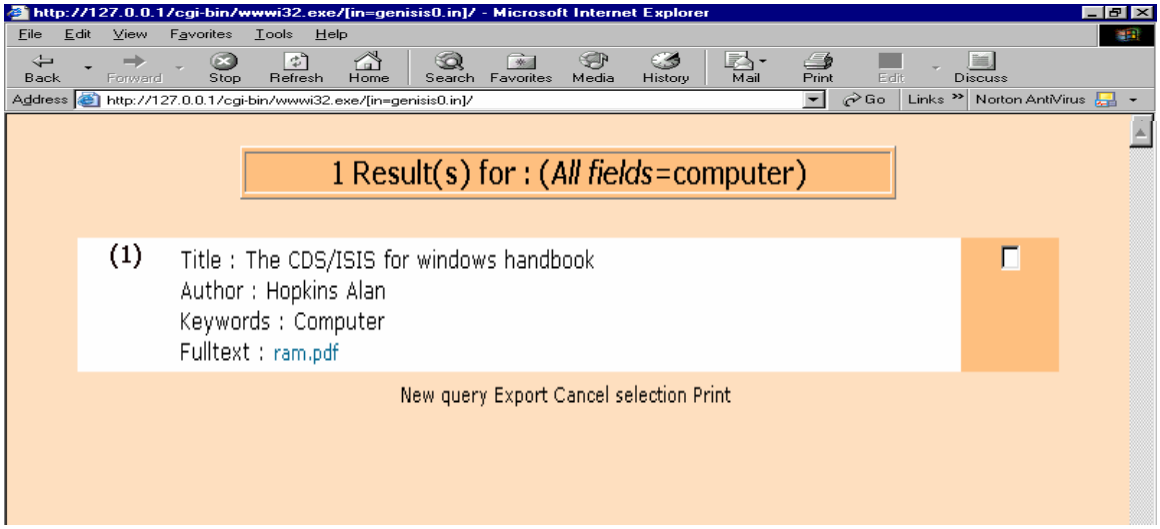
Type any search term in the **Search box** for all fields to make a search.

Figure 69 Search Window



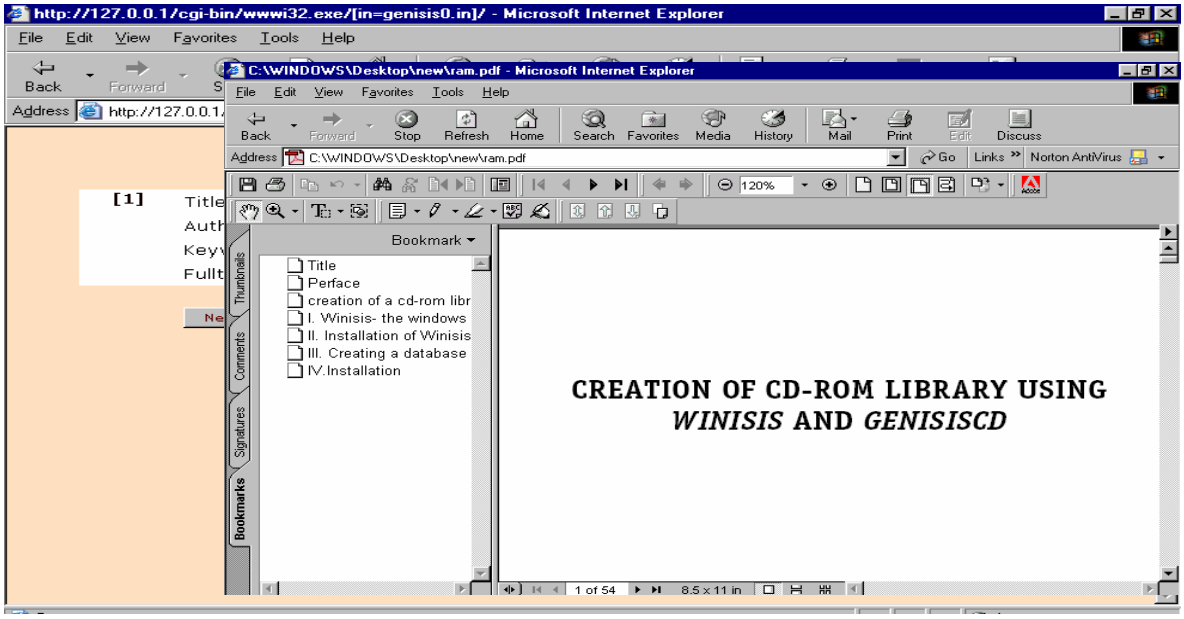
Then click the **Search** button to get the following screen containing the result.

Figure 70 Search Result Page



If you click on the **link** *(ram.pdf)* against the field **Fulltext** provided above, appropriate document would be opened, automatically as follows:-

Figure 71 An Opened Full-text Document



Close the test window and continue as in figure 72

Save the Application

Finally *save the application* by clicking the **Save** under **Application** drop down menu as in figure 72.

Figure 72 Save the Application

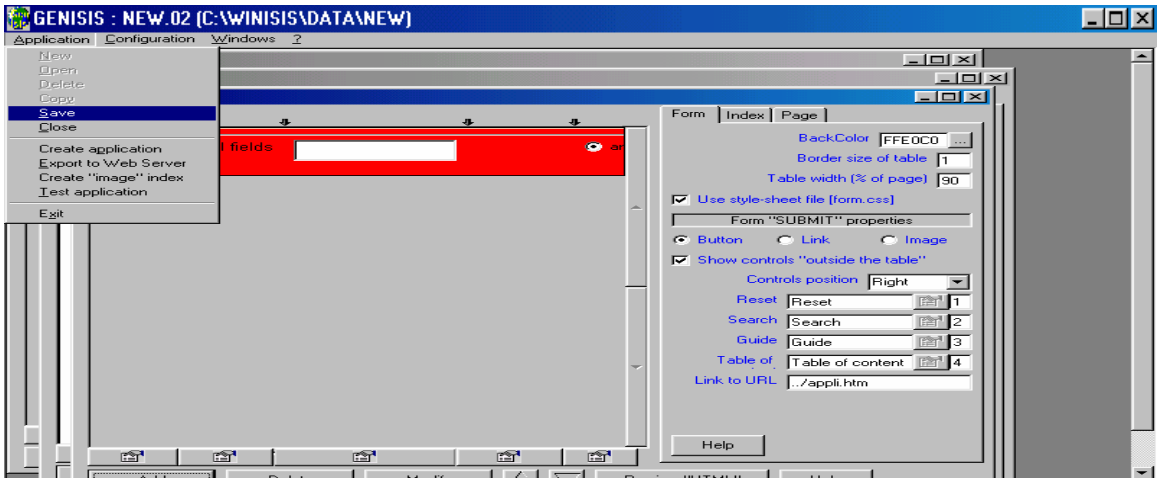


Figure 73

Click the **OK** button in the above window.

Now, you can open the GenisisWeb application by typing the http address *http://computername/wwwisis/databasename/ form.htm* in the *internet explorer* address bar.

(Eg. http://127.0.0.1/wwwisis/new.01/form.htm will be the address for the sample application created above. The computer will add .01 to the first databasename and .02 to second databasename and so on).

You can allow others to search the database with the above http address.

5. Publishing the Database in a Website

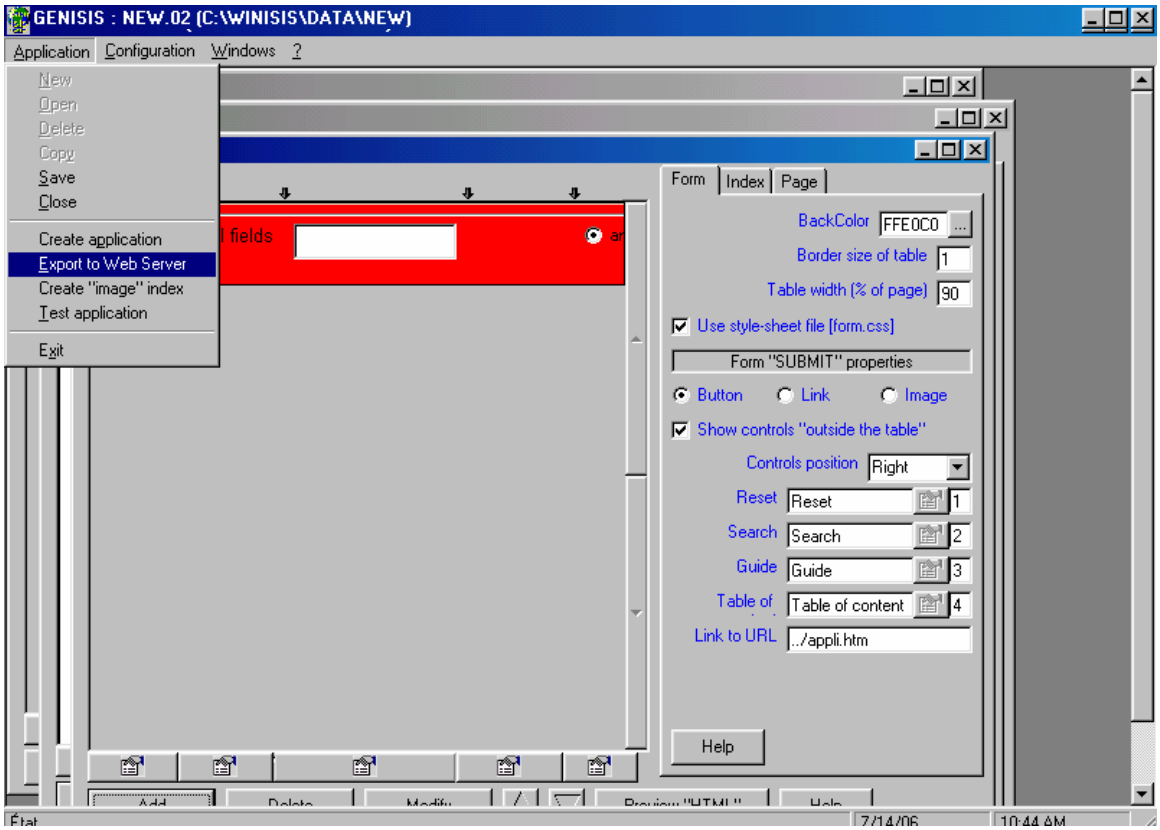
You can publish the Winisis database application created above in a website by export function of the GenisisWeb software.

Exporting the Application to the Web-server

Open the GenisisWeb application created above.

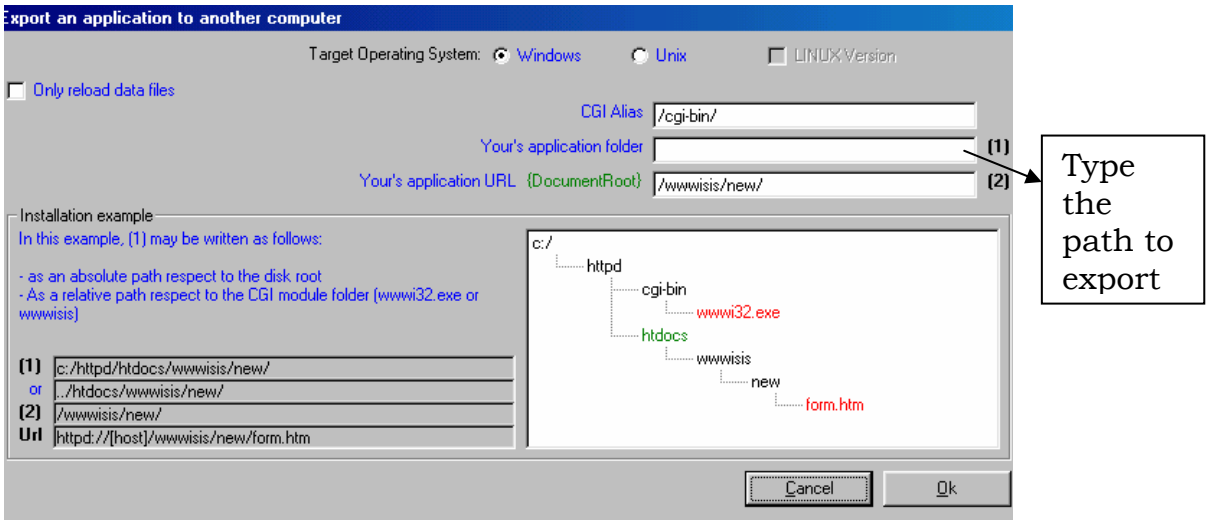
Click on **Export to web server** under the **Application** drop down menu as in figure 74

Figure 74 Exporting to Web-server



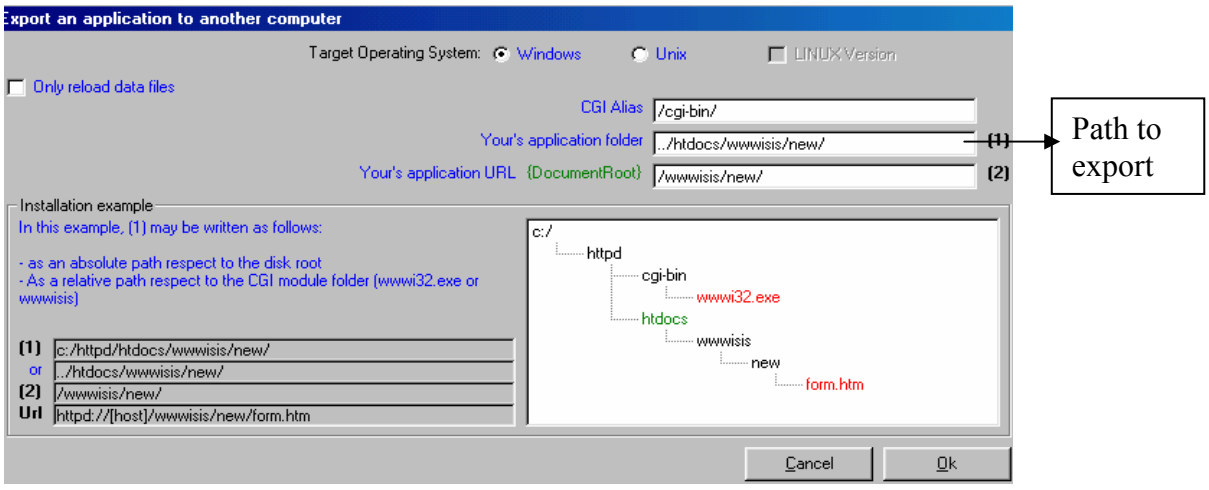
Then you will get a dialogue box in Fig.75

Figure 75



In the above screen you can choose the operating system **Windows** or **Unix**. Then type a path to export (as shown on left bottom of the screen eg. *.../htdocs/wwwisis/new/)* on the box for **Your's application folder** as above.

Figure 76



Then click the **Ok** button to start the export process.

On completion of export process, you will get a message. The message will give you instructions on what to do.